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CYNOCTONUM MITREOLA REDISCOVERED IN MISSOURI

Timothy Nigh[1] and Douglas Ladd[2]

Miterwort, *Cynoctonum mitreola* (L.) Brit., is a diminutive annual in the Loganiaceae) historically known from Butler and Dunklin counties in southeastern Missouri. According to Steyermark (1963), the only Missouri collection made in this century was from a swamp in Butler County in 1905. Wilson (1984) designates the plant "possibly extirpated" in the state.

On 13 August 1987, while evaluating a high quality fen complex in Ripley County, we discovered a population of *Cynoctonum mitreola* growing in an unusual marly gravel seepage flat peripheral to a deep muck fen. The plants occurred as scattered individuals in a sparse open turf of *Rhynchospora capillacea*, associated with *Ludwigia microcarpa*, *Physostegia angustifolia*, and *Scleria verticillata*. The area is constantly supplied with minerotrophic seepage percolating through residuum on the adjacent slope, which drains through the marly area into the deep muck fen. The fen is stratigraphically situated near the contact between the Gasconade and Roubidoux formations. Approximately 15 flowering *Cynoctonum* plants were scattered through the saturated lower portions of this seepage area, especially along a small rivulet. Several plants had nearly mature fruits.

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This fen habitat for *Cynoctonum* is apparently anomalous, since the main range of the plant is south of the generally accepted range of fen occurence. Typical habitats for *Cynoctonum* in the southeastern states include moist argillaceous or arenaceous substrates along ditches, banks and shores, as well as in open swampy or marshy areas. The range is generally given in most manuals as extending from Florida to Texas, north to Virginia, Tennessee and Arkansas, as well as in Mexico and the West Indies. McGregor (1986) describes it as "rare but locally common" in Woods County, in northwestern Oklahoma.

Being an annual, it is expected that local populations would be restricted to open areas like marl flats and shores where there would be sufficient open substrate for new plants to become established each year.

According to Nelson (1980), the correct name for this plant is *Mitreola petiolata* (J. F. Gmelin) Torr. & Gray. A voucher specimen is deposited at the Morton Arboretum, Lisle, Illinois (MOR) with the following label data:

> MISSOURI: RIPLEY COUNTY. Open seeping marly gravel flat bordering deep muck fen at northwest edge of westernmost fen of Mud Branch Fen complex, near center of NW 1/4 sec. 32 T25N, R3E ,13 August 1987, Ladd & Nigh 12259 (MOR).

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Flower in the crannied wall,
I pluck you out of the crannies,
I hold you here, root and all, in my hand,
Little flower, - but *if* I could understand
What you are, root and all, and all in all,
I should know what God and man is.

Tennyson (1908)

Shed no tear - O shed no tear!
The flowers will bloom another year.
Weep no more - O weep no more!
Young buds sleep in the root's white core.

Keats, Fairy's Song, (1818)

PROPAGATING ROSE VERBENA FROM CUTTINGS

Mervin Wallace[1]

Rose Verbena [*Verbena canadensis* (L.) Britt.], is a showy perennial that blooms from March to November with peaks in spring and fall. It is found throughout southern and central where is grows on limestone glades, bluffs, wooded slopes and openings as well as in prairies and along railroads (Steyermark, 1963). The flowers vary from purple, blue, or lilac, to rose-red. A single stemed eight-inch plant can increase under cultivation to cover about four square feet in a single growing season. This weak-stemmed plant trails over the ground, seldom exceeding one foot in height and may root where stems touch soil. It grows well in full sun to partial shade and in dry to average soil.

By now you are interested -- you want this long blooming native perennial growing in front of your sunny dry flower bed or rock garden. You don't want to dig it up from the place where you know it is growing wild. (No, you don't.)! You can collect seeds if you are lucky enough to catch them before they fall from the plant, but there is a faster way to get large plants without digging. By following the steps described below, you can produce Rose Verbena and many other plants from cuttings.

Rose Verbena typically has peak flowering in April and May followed by considerable vegetative growth until late August when it will begin to flower again if conditions are

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favorable. It is during the vegetative growth period, July and early August, that cuttings can easily be taken and rooted. The weak growing stems lie horizontally on the ground except for the last four to six inches which stand vertically. Cuttings should include all of the vertical tip of a stem plus one to two inches of the horizontal portion. A good cutting will have one or more small tan or white lumps on the lower side of the stem near the curve of the stem. These lumps rapidly grow into healthy roots in about ten days if the cuttings are provided with the right conditions.

The cuttings should be plunged into a bucket of water immediately after being removed from the parent plant. They can be left in the bucket of water for one or two hours or transferred to a plastic bag until you get home to finish the process.

Rose Verbena cuttings will not root in water alone. The stems apparently get not get enough oxygen under water for root development to occur. A good rooting medium should hold lots of moisture and yet drain well. Equal parts peat moss and perlite or equal parts peat moss and sand can be used. Commercial potting mixes such as Pro-Mix BX can also be used successfully.

Fill a five or six inch plastic pot with wet potting mix. Remove the leaves from the lower one half of your cutting by pinching them off - not pulling. These leaves are pinched off to prevent disturbing any roots that are already forming when cuttings are taken. Make a hole in the potting mix, and place the cutting in to the first set of remaining leaves. Press the mix down around the stem to close the hole. Six to eight cuttings can be put in one five or six inch pot. Water the pot thoroughly from the top to further settle the potting mix around the

cuttings. From the time the stems are removed from the parent plant to this point the cuttings should be kept moist. Next place the entire pot in a plastic bag and close the top or invert a tight fitting plastic bag over the pot. In either case make a one inch diameter hole in the bag to allow some air exchange. The plastic bag slows transpiration of water from the leaves until the stem has developed a new root system that can support normal water loss from the plant. Keep the cuttings out of direct sunlight until removed from the bag.

In about ten days some of the cuttings will have four to five inch roots with several branches. These should be removed from the pot and planted individually in three to five inch pots. In about ten more days, the rest should be ready to remove. By early fall your cuttings should be ready to plant in their permanent location. They may even be flowering by this time.

The procedure described above will also work to root many herbaceous perennial plants. The procedure can be varied slightly to better suit some species. Unlike the Rose Verbena, many cuttings benefit from having leaves pulled off. Pulling the leaf off usually tears away part of the epidermis of the stem. In some species roots form along the torn or bruised areas of stems. Some species such as Buttonbush (*Cephalanthus occidentalis* L.) root easily in water. Plants rooted in water do not need a plastic cover to keep the humidity up around their leaves.

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HAVE YOU THANKED

A

PLANT TODAY?

VEGETATION OF KNOB NOSTER STATE PARK I.

MAJOR PHYSIOGNOMIC COMMUNITIES

Ron Mullikin[1] and David Castaner[2]

Knob Noster State Park is approximately 10 miles east of Central Missouri State University in Johnson County. It is the purpose of this paper to outline the major "physiognomic" communities of the park. Physiognomic communities are defined as those largest discernible communities that are "visually" distinct (woods, grasslands, etc.). These descriptions are by design limited in scope. It is hoped, however, that this paper will give the reader a general idea of the vegetation of Knob Noster State Park. For more detailed information about community designations in Missouri and Knob Noster State Park, the reader is urged to examine publications by Nelson (1985) and Thom & Iffrig (1985).

Historical Background

In 1927, Knob Noster State Park was designated as the Monserrat National Recreation Demonstration Area. During the depression it was developed by the National Park Service under the Emergency Relief Act. It was home and provided work for about 150 men. Two camps, Camp Bob White located in the southwestern portion of the park, and Red Cedar in the

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northwestern section, were constructed during that period. Camp Red Cedar was later renamed Camp Shawnee. Each camp was provided with a pool, lodges, cabins, and dining hall for gatherings of nonprofit organizations.

On February 5, 1946, the National Park Service turned the area over to the Missouri Park Board and the name Knob Noster State Park was given to the area. Although the park grounds were characterized as unfit for farming, it was one of the few natural woodland areas of beauty and variety within 100 miles of Kansas City. Thus it was a natural choice for a state park (Syron, Beltram and Cobb, 1971).

Today Knob Noster State Park provides areas for recreational camping and hiking. A large primitive camping area has been set aside near Clearfork Creek. Workers of the WPA (Work Projects Administration) constructed all the permanent fish-stocked lakes and ponds, including Clearfork Lake, Redbud Lake, Sullivan Pond, Lake Morel, and Lake Buteo. Wide trails were also built but were not subsequently kept up until recent years. Savanna and prairie restoration are prime goals of the Department of Natural Resources. Recreational opportunities include boating, fishing, nature trails (reworked during the 1970's), swimming, picknicking, horseback riding, and camping for large or small groups.

Geology and Physiography

The last glacial encroachment (Kansan Ice Sheet) of the Pleistocene epoch pushed as far south as the Missouri River altering climatic conditions south of the ice sheet. Pollen studies of bogs in similar locations in the United States suggests that the Knob Noster area probably had a tundra-like vegetation

(Harshbarger, 1958). As the ice sheet retreated and climatic conditions moderated, deciduous forest species from southern refugia, especially the Ozarks, invaded and became established.

Knob Noster State Park lies along a north-south anticline with the Knob Noster Quadrangle. The park drains towards the north-northeast along the meandering Clearfork Creek at a gradient of about four feet per mile. The Clearfork has a wide flood plain that includes at least one ox-bow lake and one ox-bow slough (Pin Oak Slough Natural Area). The maximum elevation in the park is 325.1 meters (905 feet) in the western section along Bristle Ridge and decreases slowly eastwardly towards the Clearfork Creek Valley where the lowest elevation is 255.9 meters (710 feet). The ridges and hillsides are characterized by thin soils with many rock outcrops of limestone and sandstone.

Regional Physiognomy

Transeau (1935) described the large mid-western prairie area encompassing one-half of Missouri extending into Illinois and Indiana (and isolated places in Ohio) as the "prairie peninsula." This "peninsula" is characterized as having woodland species along streams and much of the uplands but is climatologically suited for prairie (according to Transeau). Weaver (1954) has stated that prairie is found within the precipitation limits of 58-102 cm (23-40 inches) rainfall/year. Knob Noster State Park receives approximately 91 cm (36 inches) rainfall/year and thus supports prairie (more likely man-induced than climatic). Schroeder (1981), in his Map 4 illustrating presettlement prairie in Missouri, shows most of Johnson County in prairie, with extensive forests along the Clear Fork River in what is now the park. The presence of "prairie" species in the heavily

wooded park indicates a varied ecological history.

Brief Description of Major Physiognomic Communities

For the purposes of this study, we have divided the park's vegetation into five basic physiognomic types: Those dominated by trees (with at least 30% cover) are considered (1) wooded uplands, and (2) wooded lowlands; those with less than 30% cover are considered (3) open uplands, and (4) open lowlands; those associated with water are called (5) wet areas (Figure 1). The names of species in the following discussion follows Steyermark (1963).

(1) Wooded Uplands

The upland wooded areas are characterized by tree covered ridges and slopes. The soils of the upper wooded areas are thin, poor, and well-drained and thus drier than the lower slopes and valleys where more moisture holding humus has developed.

On ridge-tops, the (Figure 2, I) Importance Values (Curtis and McIntosh, 1951) of the two most dominant tree species are 70 for Post Oak (*Quercus stellata*) and 58 for Shagbark Hickory (*Carya ovata*). Other trees present include Red Oak (*Q. rubra*) 39, Slippery Elm (*Ulmus rubra*) 19, and Mockernut (*C. tomentosa*) 18). Post Oak is considered the climax tree in this type of community where it may attain importance values up to 170 (Carter, 1981).

On the slopes, in addition to the trees noted above, other species occur in the canopy and understory vegetation (Figure 2, II). These include Bitternut (*Carya cordiformis*), Mockernut, Bur Oak (*Quercus macrocarpa*), Chestnut Oak (*Q. prinoides*), Red Mulberry (*Morus*

rubra), Osage Orange (*Maclura pomifera*), Serviceberry (*Amelanchier arborea*), Hophornbeam (*Ostrya virginiana*), Black Cherry (*Prunus serotina*) and Persimmon (*Diospyros virginiana*) (Figure 2, II).

On disturbed areas in the uplands where much erosion has occurred Black Jack Oak (*Quercus marilandica*) and Black Locust (*Robinia Pseudo-Acacia*) can be found. Ground cover is sparce and includes such species as Long-bracted Wild Indigo (*Baptisia leucophaea*) and Bent Milk Vetch (*Astragalus distortus*). Shingle Oak (*Quercus imbricaria*) grows often at the edges of cleared fields and lots.

In the more heavily wooded areas, shade tolerant understory species include Yellow Star Grass (*Hypoxis hirsuta*), Early Buttercup (*Ranunculus fascicularis*), Rue Anemone (*Anemonella thalictroides*), Indian Physic (*Gillenia stipulata*), Flowering Sumac (*Rhus aromatica*), Beard-tongue (*Penstemon pallidus*), Pussy's-toes (*Antennaria plantaginifolia*), and Prairie Ragwort (*Senecio plattensis*).

(2) Wooded Lowlands

The moist lowland wooded areas have the most favorable growing conditions and consequently support a more diverse vegetation. The wooded lowlands communities are found mainly in the Clearfork Creek bottoms and the ravines that drain into Clearfork Creek on the east and west.

A tree community much different from the Wooded Uplands develops in the Lowlands. Species encountered in this community include Bitternut (*Carya cordiformis*), Kingnut (*C. laciniosa*), Swamp White Oak (*Q. bicolor*), American Elm (*Ulmus americana*), Slippery Elm, Persimmon (*Asimina triloba*), Honey Locust (*Gleditsia*

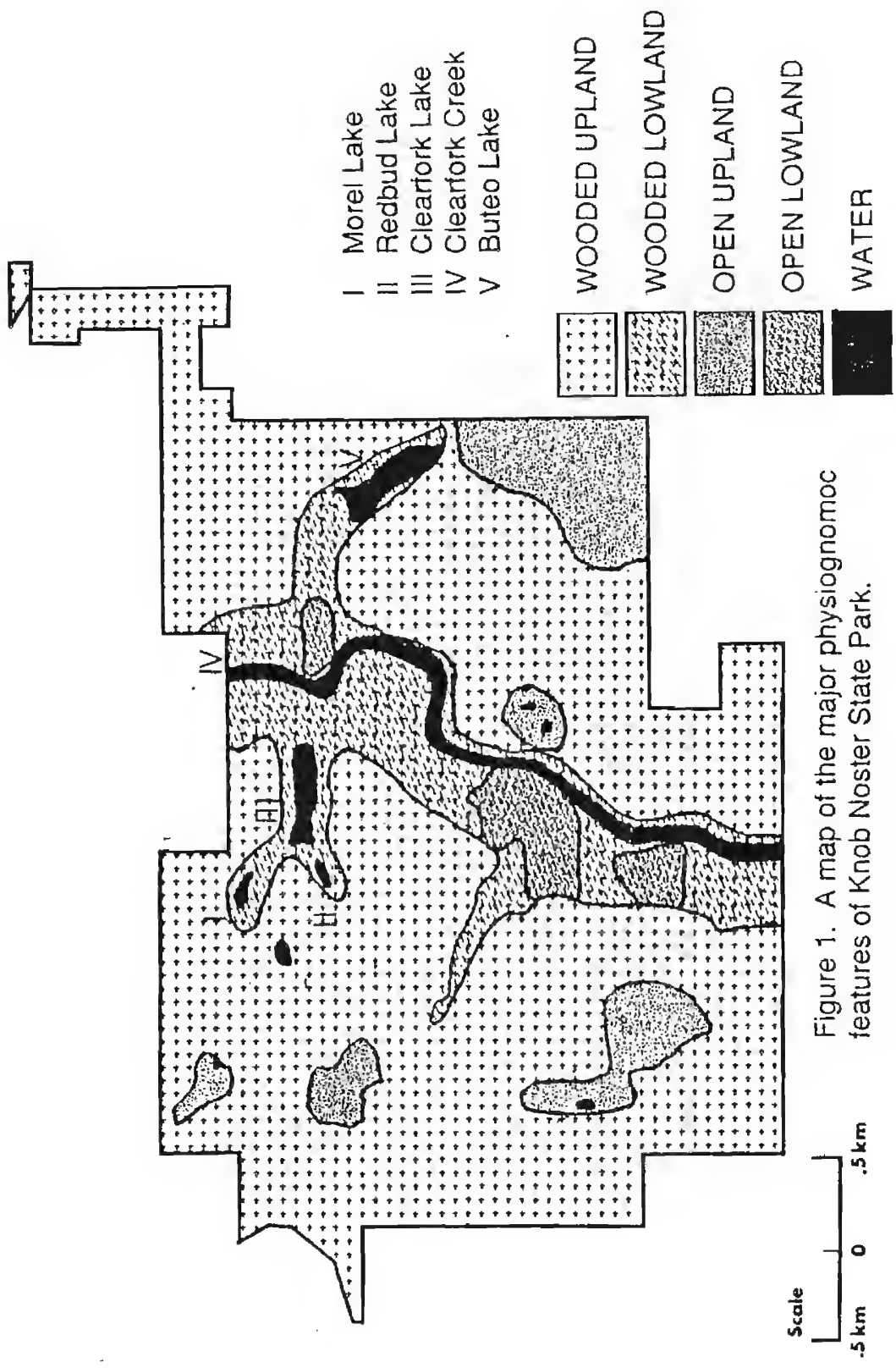

Figure 1. A map of the major physiognomoc features of Knob Noster State Park.

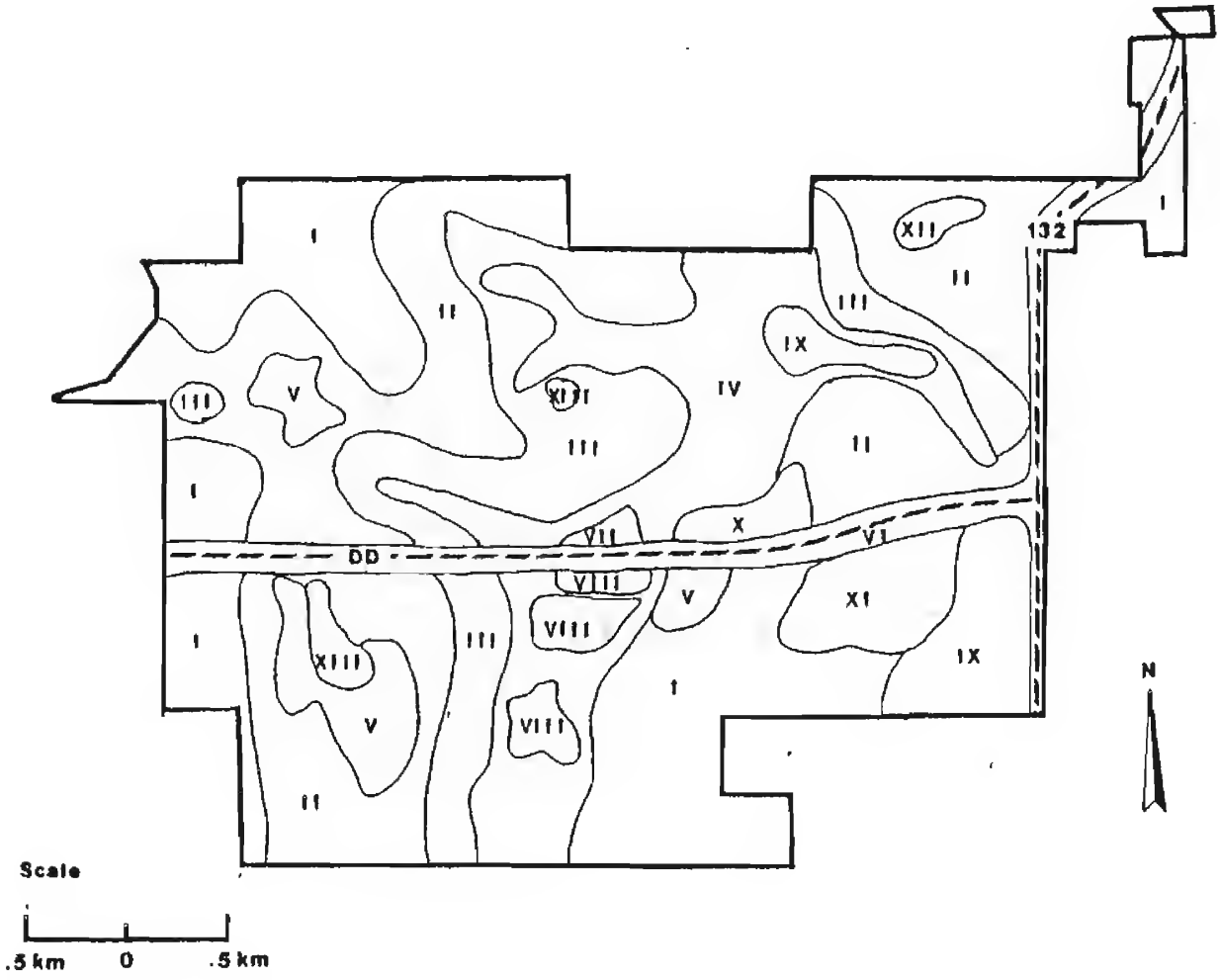

Figure 2. Vegetation subdivisions of Knob Noster State Park. I. Oak-Hickory (dominant). II. Oak-hickory (intergrading with other species). III. Elm important. IV. Sycamore-Maple-Box Elder. V. Grasses-Milkweed-Goldenrod. VI. Grasses-Sunflowers-Legumes (roadsides). VII. Sedges. VIII. Grasses-Box Elder-Sycamore. Additional subdivisions of interest are IX. Bluegrass-Chickweed-Dandelion (mowed areas). X. White Oak stands. XI. Hickory Stands. XII. Black Locust stand. XIII. Pine plantings.

triacanthos), Red bud (*Cercis canadensis*), Bladdernut (*Staphylea trifolia*), Ohio Buckeye (*Aesculus glabra*), Basswood (*Tilia americana*), Rough-leaved dogwood (*Cornus drummondi*), and Swamp Dogwood (*Cornus obliqua*) (Figure 2, III). Large clonal colonies of *Rubus* species interwoven Poison Ivy, (*Rhus radicans*) are frequently present.

An important community associated with the lowland is the abandoned oxbow or slough community. Pin Oak Slough Natural Area is an area dominated by the park's tallest Pin oaks. Associated trees include Silver Maple, Bur Oak, and Swamp White Oak (Thom, 1985). Large colonies of Buttonbush (*Cephalanthus occidentalis*), Sensitive Fern (*Onoclea sensibilis*), *Carex hyalinolepis*, *C. mushingumensis*, and the Hop Sedge (*C. lurida*) are commonly present. The Pale Green Orchid (*Habenaria flava* var. *herbiola*) maintains itself grows among the Hop Sedges. The park's only specimen of Sweet Gum (*Liquidamber stryraciflua*) is found close to the slough. The origin of this Sweet Gum is unknown. It is solitary and away from any human artifact. However, it is commonly planted as an ornamental in the area.

Common species of the canopy and understory of the river bottoms and streams emptying into the Clearfork Creek are Black Willow (*Salix nigra*), Cottonwood (*Populus deltoides*), River Birch (*Betula nigra*), American Elm, Hackberry (*Celtis occidentalis*), Sycamore (*Platanus occidentalis*), Kentucky Coffeetree (*Gymnocladus dioica*), Silver Maple (*Acer saccharinum*), and Box Elder (*A. Negundo*) (Figure 2, IV).

The moist areas above the primary flood plain of the Clearfork Creek at the base of slopes and near stream beds are habitats for a variety of plants. Some of these are

Rattlesnake Fern (*Botrychium virginianum*), Spike Grass (*Uniola latifolia*), Wood Reed Grass (*Cinna arundinacea*), Indian Turnip (*Arisaema atrorubens*), Day Flower (*Commelina communis*), Wake-Robin (*Trillium sessile*), False Nettle (*Boehmeria cylindrica*), May Apple (*Podophyllum peltatum*), Gooseberry (*Ribes missouriense*), White Avens (*Geum canadense*), Agrimony (*grimonia pubescens*), Harbinger-of-Spring *Erigenia bulbosa*), Wild Sweet Williams (*Phlox divaricata*), Stickseed (*Hackelia virginiana*), Heal All (*Prunella vulgaris*), Blue-eyed Mary (*Collinsia verna*), and Tall Bellflower (*Campanula americana*). Ferns such as the Christmas Fern (*Polystichum acrostichoides*), the Maidenhair Fern (*Adiantum pedatum*), and the Wood Fern (*Woodsia obtusa*) can be found on east or north facing slopes of this and upland habitats.

Species found in the direct flood plain of the Clearfork Creek include Creeping Love Grass (*Eragrostis hypnoides*), Indian Turnip, Wild Ginger (*Asarum canadense*), Swamp Buttercup (*Rununculus septentrionalis*), Wild Geranium (*Geranium maculatum*), Woollen Breeches (*Hydrophyllum appendiculatum*), Virginia Bluebells (*Mertensia virginica*), Beggar's Ticks (*Bidens frondosa*), and Burdock (*Arctium minus*).

(3) Open Uplands

The upland open areas are of two types in Knob Noster State Park. Some are old abandoned fields, where succession to upland forest is occurring, and maintained roadsides.

Species often found in upland clearings are Big Blue Stem, (*Andropogon gerardi*), Brome Sedge (*A. virginicus*), Partridge Pea (*Cassia fasciculata*), Whorled Milkweed (*Asclepias verticillata*), and Late Goldenrod (*Solidago gigantea*) (Figure 2, V).

Roadsides provide wide areas between upland woods and the pavement. Periodic mowing (usually twice a year) prevents encroachment by tree species. In such artificially maintained habitats commonly found species include Brome Sedge, Smooth Brome (*Bromus inermis*), Downy Brome (*B. tectorum*), *Carex bushii*, *Allium mutabile*, Blue-eyed Grass (*Sisyrinchium campestre*), Thyme-leaved Sandwort (*Arenaria serphyllifolia*), Deptford Pink (*Dianthus armeria*), Prairie Larkspur (*Delphinium virescens*), Early Water Avens, Prairie Clover (*Petalostemon purpureum*), Common Mullein (*Verbascum thapsus*), Moth Mullein (*Verbascum blattaria*), Wild Petunia (*Ruellia humilis*), St. John's Wort (*Hypericum perforatum*), and Goat's Beard (*Tragopogon dubius*) (Figure 2 VI).

(4) Open Lowlands

The lowland open areas of the park consists of abandoned fields and low areas along Clearfork Creek. On the north side of DD highway near Clearfork Creek is a clearing in a lowland woods that has standing water much of the time in the spring. Species associated with this area are Common Bulrush (*Scirpus atrovirens*), *S. lineatus*, Fox Sedge (*Carex vulpinoidea*), *C. conjuncta*, *C. tribuloides*, *C. shortiana*, *C. squarrosa*, and Hop Sedge (*C. lupulina*) (Figure 2 VII).

Wood Reed Grass (*Cinna arundinacea*) dominates an abandoned field south of DD highway along Clearfork Creek. *Carex davisii*, an adventive sedge often found along roadsides, is also common in this abandoned field.

Species commonly encountered along highways include Japanese Brome (*Bromus japonicus*), *Carex molesta*, White Clover (*Trifolium repens*), Wood Sage (*Teucrium canadense*), and the Sunflower (*Helianthus*

hirsutus) (Figure 2 VIII).

In mowed areas, especially in the primitive campgrounds, common species include Kentucky Bluegrass (*Poa pratensis*), *Panicum dichotomiflorum*, Jagged Chickweed (*Holosteum umbellatum*), Peppergrass (*Lepidium virginicum*), Smooth Yellow Violet (*Viola pensylvanica*), Hedge Parsley (*Torilis japonica*), Bluet (*Houstonia minima*), and Common Dandelion (*Taraxacum officinale*).

(5) Wet Areas

There are many species which are associated with ponds and lakes and their borders. Lesser Duckweed (*Lemna minor*) is found free floating only on Lake Buteo. Floating Primrose Willow (*Jussiaea repens*) is found at the water's edge and extending out across shallow water of almost every pond and lake.

During the spring rains many species become partially inundated. These include Common Cattail (*Typha latifolia*), the Spikerushes (*Eleocharis obtusa* and *Eleocharis smallii*), and the Rush, *Juncus acuminatus*. Other species found on the borders of ponds and lakes are Black Willow (*Salix nigra*), Lady's Thumb (*Polygonum persicaria*), Ditch Stonecrop (*Penthorum sedoides*), Mint (*Mentha spicata*), Bedstraw (*Galium* spp.), and Buttonbush (*Cephalanthus occidentalis*). These species also occur in upland ponds. Arrowhead (*Sagittaria engelmanniana*) can be found in ponds where the water levels recede in the drier summers. Touch-me-not (*Impatiens capensis*) can be found growing in the muddy flats at the mouth of the dried streams that empty into the upland lakes (Figure 2, IV).

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Note of Interest

Jean-Baptiste Duerinick (1809-1857) was a Belgium Jesuit missionary in the middle western United States. He collected plants in St. Louis and neaby Illinois between 1826 and 1840. A sketch of his life is found in a paper by L. J. Dorr (Bull. Jard. Bot. Nat. Belg. Bull. Nat. Plantentuim Belg. 56: 397-416. Dorr is on the staff of the Missouri Botanical Garden.

NOMENCLATURAL REVIEW OF THE FAMILIES CERATOPHYLLACEAE AND NYMPHAEACEAE IN MISSOURI

Joanna Turner[1]

CERATOPHYLLACEAE S. F. Gray (Hornwort Family)

The genus *Ceratophyllum* in the monogeneric family Ceratophyllaceae has been considered by some authors to be comprised of only one cosmopolitan species with varying numbers of intergrading forms, and by others to have more than thirty species. Lowden (1978) stated that the rather localized distribution of *Ceratophyllum* has contributed to the description of a number of species which are actually variants of the same species. This is evident when the worldwide range of the genus is considered.

According to Lowden, no differences exist between Asa Gray's 1837 description of *C. echinatum* and Chamisso's 1829 description of *C. muricatum*; thus the earlier name has priority. Accordingly he recognized the genus to include three species: *Ceratophyllum muricatum* Cham. (= *C. echinatum* A. Gray) and *C. demersum* L., the two Missouri taxa, and *C. submersum* L., confined in the United States to Florida. Other authors (Lowden and Wooten, 1980; Mohlenbrock, 1986; and Godfrey and Wooten, 1981) have all concurred in this arrangement. Fassett (1957) recognized only one taxon, *C. demersum*, saying it was widely distributed and very variable in length and degree of crowding of leaves. Smith (1978), Kaul (1986), and Correll and Correll (1972) all

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recognized only two taxa, *C. demersum* and *C. echinatum*, with no reference to *C. muricatum*. Wood (1959) stated there were six or more species in this genus with three in the southeastern United States: *C. demersum*, *C. echinatum*, and *C. floridanum*. Voss (1985) cited both Fassett and Lowden as references but retained *C. echinatum*, noting that it is sometimes included in the Old World *C. muricatum*. He pointed out the difficulties of distinguishing one species from another, as did Cook et al. (1974), who felt the more than thirty species described worldwide were no more than local variants of *C. demersum* and *C. submersum*. However, they gave no synonymy or varieties. Webb (1964) recognized four species for Europe, including *C. demersum*, *C. submersum*, and *C. muricatum*. Cronquist (1981) noted that *Ceratophyllum* "has about 6 species, of cosmopolitan distribution."

In a recent worldwide study, Wilmot-Dear (1985) determined that although other treatments of this genus recognized three to four species (although not always the same taxa), all of them, in at least one region, showed variants intermediate with one another. She concluded that there are only two species, *C. demersum* and *C. submersum*, and that *C. muricatum* should be considered a subspecies of *C. submersum*. Since Gray was the first to recognize this taxon as a variety, his epithet *echinatum* has priority at the varietal rank. According to Wilmot-Dear, Missouri material would consist of the following:

Ceratophyllum demersum L. var. *demersum*
f. *demersum*

Ceratophyllum submersum L.
subsp. muricatum (Cham.) Wilmot-Dear
var. *echinatum* (A. Gray) Wilmot-Dear
(= *C. muricatum* Cham., *C. demersum*

var. *echinatum* (A. Gray) A. Gray and *C. echinatum* A.Gray).

Wilmot-Dear separated these two species by the following key (p. 256):

Leaves 1-2 forked (rarely on lower part of main axis,3 (-4) forked), rarely delicate, most usually robust, rigid, and brittle, with marginal teeth along the leaf segment often many and prominent.
. . . . . *C. demersum*

Leaves, at least the majority in all parts of the plant, 3-4 forked, delicate, marginal teeth few and inconspicuous.
. . . . . *C. submersum*

Steyermark (1963, p.663) followed Fassett's revision of the family, using *C. demersum* and *C. echinatum*. However, acceptance of Wilmot-Dear's recent revision would require that his taxon *C. echinatum* be included as a variety of *C. submersum* subsp. *muricatum*.

Les (1985, 1988) has recently presented evidence that Wilmot-Dear's merger of *C. echinatum* with *C. submersum* is not warranted, and his treatment of Missouri material would be in agreement with that of Steyermark. Thus the controvesy over this complex genus continues.

NYMPHAEACEAE

There has long been a debate over the taxonomic status of the family Nymphaeaceae. Some authors felt it should be maintained in a broad sense, including Steyermark (1963, p. 664). However, many recent authors have treated it as three distinct families, the Nelumbonaceae, Cabombaceae, and Nymphaeaceae. Cronquist (1981) placed *Nelumbo* in the Nelumbonaceae and *Brasenia* and *Cabomba* in the

Cabombaceae, with all three families in the order Nymphaeales. Mohlenbrock (1986), Kaul (1986), Godfrey and Wooten (1981), and Cook et al. (1974) all recognize these three families.

Takhtajan (1980) not only accepted the three families but placed the Nelumbonaceae in a separate order, the Nelumbonales, and in a different superorder Nelumbonae. Thorne (1983) also accepted the three families, with Cabombaceae and Nymphaeaceae in the order Nymphaeales, superorder Nymphaeaiflorae, and the Nelumbonaceae in a different order (Nelumbonales) and in a different superorder (Annoniflorae). Thorne stated that despite the similarity in habitat and growth habit of *Nelumbo* and the Nymphaeales, they differ in stem anatomy (*Nelumbo* has primitive vessel elements, while the Nymphaeales have no vessels or only specialized ones in *Cabomba*) and in pollen grains (*Nelumbo* has tricolpate grains; the Nymphaeales, monosulcate or monosulcate-derived grains). He pointed out that distinct serological and other phytochemical differences have been found, and similarities of *Nelumbo* to the Annonales and Berberidales have been noted. Mabberly (1978), although not splitting the Nymphaeaceae, referred to *Nelumbo* as differing so much that it is thought by many to be allied to *Podophyllum* (Berberidaceae). Mabberly (1987) accepted the segregate families.

Voss (1985) maintained the family Nymphaeaceae with three distinct subfamilies but recognized that there are arguments on the question of rank that could support both points of view. Hutchinson (1973) retained *Nelumbo* in the Nymphaeaceae while recognizing Cabombaceae as a separate family. Beal (1980), Wood (1959), Smith (1978), Correll and Correll (1972), and Fassett (1957) did not recognize any segregate families. If one chooses to accept the segregated families, the following key, adapted

from Cronquist (1981, p. 105) and Voss (1985, p. 189) may be used to distinguish them:

Carpels not embedded in the receptacle

Plants acaulescent (without an evident stem), leaves all simple and rising directly from rhizomes, usually with floating leaf-blades . . . Nymphaeaceae

Plants with long, slender, leafy, distally floating stems in addition to the rhizomes, with or without floating leaf-blades, often with some or all of the leaves submerged and dissected. . . . . Cabombaceae

Carpels individually embedded in the enlarged. top-shaped receptacle, leaves and flowers borne above the surface of the water . . . . . Nelumbonaceae

Following this classification, the following changes in nomenclature have been proposed:

NYMPHAEACEAE Salisbury (Water Lily Family)

Nuphar lutea (L.) Sibth. & Smith

Voss pointed out that the generic name of this taxon was feminine as orginally published and is treated as such in the conserved names, but the use of *luteum* with the neuter ending has persisted. Rickett and Stafleau (1959) further explained that J. E. Smith adopted the feminine gender for *Nuphar* and since this is an Arabic work turned into Greek by Dioscorides, not a classical word, the choice of Smith was adopted under Rec. 75 (A) 3.

There seems to be a great deal of confusion concerning the nomenclature and number of

species and subspecies of *Nuphar*. Beal (1956) recognized only a single polymorphic species, *N. lutea* (L.) Sibth. & Smith, with nine subspecies, including two found in Missouri: subsp. *macrophylla* (Small) E. Beal and subsp. *ozarkana* (Miller & Standley) E. Beal. Steyermark (1963) followed Beal's treatment, as did Beal (1980), Correll and Correll (1972), Kaul (1986) and Mohlenbrock (1986). Godfrey and Wooten (1981) also followed Beal but stated that according to Beal (no reference given), subsp. *ozarkana* is questionably distinguishable from subsp. *macrophylla*. Smith (1978) absorbed all subspecies. Voss (1985) disagreed with Beal's placement of all American taxa in this genus as subspecies of *N. lutea*, claiming that our plants are easily distinguished (much more so than the species usually recognized in *Nymphaea*), and he treats them as closely related species. He stated that *N. advena* (Aiton) Aiton f. has been called *N. lutea* subsp. *macrophylla* but under the Code as amended in 1981, it would have to be called subsp. *advena* (a combination not yet published) if treated at that rank. Voss (1984) further explained that at the 1981 Botanical Congress, autonyms were given new status and the 1912 autonym *Nymphozanthus advena* (Aiton) Fern. subsp. *advena* has to be treated as having priority over the previously accepted *N. lutea* subsp. *macrophylla*. Since Voss chooses to recognize it as a distinct species, he prefers the use of *N. advena*. Thus the taxa in Steyermark (1963) may be treated as follows:

Nuphar lutea (L.) Sibth. & Smith
subsp. *macrophyllum* (Small) E. Beal
= *Nuphar advena* (Aiton) Aiton f. cf. Voss 1985.

Nuphar lutea (L.) Sibth. & Smith
subsp. *ozarkanum* (Miller & Standley) E. Beal

Nymphaea odorata Aiton var. *odorata*

This is possibly the only species of this variable genus found in Missouri. Beal (1980) listed *N. odorata* var. *gigantea* Tricker and *N. tuberosa* Paine as synonyms under *N. odorata* var. *odorata*. Wood (1959) recognized the need for a critical study of *N. odorata*, and Voss (1985) cited studies indicating that differences between *N. odorata* and *N. tuberosa* did not hold up under investigation. Smith (1978) recognized only *N. odorata*, with no varieties. Godfrey and Wooten (1981) included *N. odorata* var. *odorata* and var. *gigantea* but pointed out the diversity in the latter and admitted their difficulty in assigning many species to either variety. Correll and Correll (1972) and Mohlenbrock (1986) used *N. odorata* (no varieties) and *N. tuberosa*.

CABOMBACEAE A. RICHARD (Water Shield Family)

Brasenia schreberi J. Gmelin

Cabomba caroliniana A.Gray.

No changes in nomenclature have been suggested for the two taxa in this family that occur in Missouri.

NELUMBONACEAE Dumortier (Lotus Lily Family)

Nelumbo lutea (Willd.) Pers.

Nelumbo nucifera Gaertner

Sohmer (1975) argued that the correct name for *Nelumbo lutea* (Willd.) Pers. is *N. pentapetala* (Walter) Fern. and this name was used by Cook et al. (1974). However, Sohmer's arguments were rejected by Ward (1977) and have

not been accepted by any other authors I consulted.

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I wish to thank Dr. Wallace R. Weber and Dr. Paul L. Redfearn, Jr., Department of Biology, Southwest Missouri State University, Springfield, MO 65804-0095, for their helpful suggestions on this paper.

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Notes on Research of Interest

Two Master's Theses recently completed at Southwest Missouri State University may be of interest to members of the Missouri Native Plant Society. These are:

The Bryophytes of Ha Ha Tonka State Park, Camden County, Missouri by Carol A. Fuller. 1986.

The Vascular Flora of Bona Glade Natural Area, Dade County, Missouri by Arlene J. Collett. 1987.

MISSOURI BOTANICAL RECORD

Compiled and Edited
By
Wallace R. Weber*, Jon P. Rebman*, and William Corcoran**

The *Missouri Botanical Record* is the official register for new county records of all vascular plant taxa in Missouri. To qualify for inclusion in this record, a voucher specimen of the record taxon must be deposited in a recognized herbarium and verified by the curator. Following the format used below, please submit all records to Dr. Wallace R. Weber, Department of Biology, Southwest Missouri State University, Springfield, MO., 65804.

With completion of the transfer of Steyermark's original distribution records to the mainframe computer at Southwest Missouri State University, we are now in the process of merging new records with the Steyermark data base. Over 800 new records are included in this issue of *Missouriensis*, with the remainder of the backlog due to be published in the next issue. As this is an ongoing project, all persons are urged to submit any records that have not yet been included. Although progress to this point has been slow, we feel confident that publication of records in the future will be more timely. One immediate goal is to provide **updated** county record lists to all who request them by sometime this summer. Remember, county record lists or lists of taxa NOT in a county, based on Steyermark's original data base, can already be obtained by request from the senior author.

Several minor changes in format have been initiated in this issue of the *MISSOURI BOTANICAL RECORD*. In previous issues, only a single map number from **Steyermark's** *Flora of Missouri* was associated with each species, even though several **subspecific taxa** were listed. In these instances, Steyermark used various symbols to represent each taxon on a single Missouri county map. A decimal system is now being used with .1 assigned to the first subspecific taxon listed by Steyermark under each map, .2 for the second, and so on. Point nine nine (.99) is used to designate a species in which Steyermark included one or more subspecific taxa, but which was not specified by the collector. Point zero nine (.09) indentifies a taxon not included by Steyermark. Another change includes the use of abbreviations in the list of names. The letter v. and f. refer to variety and form respectively, while nv indicates that no subspecific category has been recognized.

Contributors for this issue include **Otto Ohmart**, Dept. of Biology, Southeast Missouri State University, Cape Girardeau, Missouri, 63701; and **Patrick DeLozier**, Kansas, City, Missouri.

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MAP #	TAXON	COUNTY	DATE	COLLECTOR	HERB
10	EQUISETUM ARVENSE NV	SCOTT	5/15/71	J.BURGER(109)	SEMO
10	EQUISETUM ARVENSE NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(974)	UMKC
10	EQUISETUM ARVENSE NV	RAY	5/4/83	DELOZIER&RAVEILL(917)	UMKC
10	EQUISETUM ARVENSE NV	WORTH	6/1/83	DELOZIER&RAVEILL(1120)	UMKC
10	EQUISETUM ARVENSE NV	LINN	5/18/84	DELOZIER&ZELK(1545)	UMKC
12	EQUISETUM LAEVIGATUM NV	CARTER	5/17/69	J.P.HUCKABAY(NONE)	SEMO
13	EQUISETUM HYEMALE NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(986)	UMKC
13	EQUISETUM HYEMALE NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1451)	UMKC
14	BOTRYCHIUM DISSECTUM V.TENUIFOLIUM	WAYNE	3/15/74	S.BAUGHN(NONE)	SEMO
15	BOTRYCHIUM VIRGINIANUM V.VIRGINIANUM	NEWMADRID	5/8/71	K.CLEMENT(109)	SEMO
26	PTERIDIUM AQUILINUM V.PSEUDOCAUDATUM	STODDARD	7/19/69	LUTES(83)	SEMO
52	ATHYRIUM FELIX-FEMINA NV	CLAY	8/1/83	RAVEILL&WAGENKNECHT(1732)	UMKC
59	DRYOPTERIS MARGINALIS NV	WAYNE	3/15/74	B.BAUGHN(NONE)	SEMO
67.99	JUNIPERUS VIRGINIANA NV	SCOTT	6/23/67	LUKER(22)	SEMO
71	TYPHA GLAUCA NV	SCOTT	7/9/74	T.E.BROOKS(7413)	SEMO
90.99	ALISMA PLANTAGO-AQUATICA V.PARVIFLORUM	DALLAS	8/26/72	S.A.SUTTER(827)	SEMO
90.99	ALISMA PLANTAGO-AQUATICA V.PARVIFLORUM	NEWMADRID	7/13/71	K.CLEMENT(186)	SEMO
94	SAGITTARIA MONTEVIDENSIS NV	STODDARD	7/14/69	J.LUTES(NONE)	SEMO
97	SAGITTARIA AMBIGUA NV	STODDARD	4/24/59	R.SMITH(1)	SEMO
111	BROMUS RACEMOSUS NV	STE.GENEVIEVE	5/23/75	W.R.EDDLEMAN(NONE)	SEMO
112	BROMUS SQUARROSUS NV	NEWMADRID	6/9/71	K.CLEMENT(149)	SEMO
113	BROMUS JAPONICUS NV	BOLLINGER	6/24/67	D.FISH(103)	SEMO
113	BROMUS JAPONICUS NV	NEWMADRID	6/14/71	K.CLEMENT(177)	SEMO
113	BROMUS JAPONICUS NV	SCOTT	6/20/73	R.CLINARD(NONE)	SEMO
131	POA CHAPMANIANA NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(963)	UMKC
131	POA CHAPMANIANA NV	RAY	5/4/83	DELOZIER&RAVEILL(925)	UMKC
131	POA CHAPMANIANA NV	LIVINGSTON	5/4/83	RAVEILL(1469)	UMKC
134	POA PRATENSIS NV	WASHINGTON	5/10/69	FURRY(43)	SEMO
134	POA PRATENSIS NV	GENTRY	5/31/83	DELOZIER&RAVEILL(1099)	UMKC
134	POA PRATENSIS NV	HOLT	5/2/68	GOODNIGHT(297-68)	UMKC
139	POA BULBOSA NV	CARTER	4/18/71	T.E.BROOKS(NONE)	SEMO
143	ERAGROSTIS HYPNOIDES NV	SCOTT	9/15/76	OHMART&THOMPSON(1583)	SEMO
144	ERAGROSTIS CAPILLARIS NV	SCOTT	9/15/76	OHMART&THOMPSON(1605)	SEMO
147	ERAGROSTIS PECTINACEA NV	SCOTT	10/6/76	OHMART&THOMPSON(1659)	SEMO
149	ERAGROSTIS POAEOIDES NV	BUCHANAN	9/11/82	DELOZIER&GIBBS(3858)	UMKC
154.99	ERAGROSTIS SPECTABILIS NV	COOPER	10/10/83	DELOZIER,RAVEILL&GIBBS(1527)	UMKC
154.99	ERAGROSTIS SPECTABILIS NV	RAY	9/5/82	DELOZIER&GIBBS(2911)	UMKC
156	DIPLACHNE FASCICULARIS NV	CHARITON	10/25/75	W.R.EDDLEMAN(NONE)	SEMO
156	DIPLACHNE FASCICULARIS NV	SCOTT	11/3/76	OHMART(1681)	SEMO
157	DIPLACHNE HALEI NV	STODDARD	10/18/75	W.R.EDDLEMAN(NONE)	SEMO
162	UNIOLA LATIFOLIA NV	NEWMADRID	6/30/71	K CLEMENT(211)	SEMO
164	DACTYLIS GLOMERATA V.GLOMERATA	WASHINGTON	5/10/69	FURRY(44)	SEMO
164	DACTYLIS GLOMERATA NV	WORTH	6/1/83	DELOZIER&RAVEILL(1114)	UMKC
164.99	DACTYLIS GLOMERATA NV	NEWMADRID	6/2/71	K.CLEMENT(136)	SEMO
164.99	DACTYLIS GLOMERATA NV	WAYNE	4/25/70	D.CRITES(70)	SEMO
164.99	DACTYLIS GLOMERATA NV	SCOTT	5/15/68	DOWNING(57)	SEMO
166	PHRAGMITES COMMUNIS V.BERLANDIERI	SCOTT	7/31/72	T.E.BROOKS(6793)	SEMO
166	POA PRATENSIS NV	SCOTT	5/6/70	L.ROBERTS(NONE)	SEMO
174.99	AGROPYRON REPENS NV	NEWTON	6/18/58	PALMER(67362)	UMKC
175	AGROPYRON SMITHII NV	CHARITON	10/25/75	W.R.EDDLEMAN(NONE)	SEMO
179	SECALE CEREALE NV	CLAY	5/22/83	RAVEILL(1521)	UMKC
180	ELYMUS GLAUCUS NV	SHANNON	8/19/76	M.KUSTER(NONE)	SEMO
184	ELYMUS RIPARIUS NV	STODDARD	6/16/69	B.SCHUCHART(36)	SEMO
185	ELYMUS VIRGINICUS V.VIRGINICUS-F.VIRGINICUS	NEWMADRID	6/14/71	K.CLEMENT(192)	SEMO
185.20	ELYMUS VIRGINICUS V.JEJUNUS	SCOTT	6/20/74	T.E.BROOKS(NONE)	SEMO

185.40	ELYMUS VIRGINICUS V.GLABRIFLORUS-F.GLABRIFLORUS	BOLLINGER	7/1/67	D.FISH(103)	SEMO
185.99	ELYMUS VIRGINICUS NV	RAY	8/21/82	DELOZIER&GIBBS(118)	UMKC
187	HYSTRIX PATULA F.PATULA	CARTER	7/2/72	T.E.BROOKS(6566)	SEMO
188	HORDEUM JUBATUM V.JUBATUM	SCOTT	6/6/78	OHMART(2094)	SEMO
194	KOELERIA CRISTATA NV	SALINE	6/1/68	HENDERSON(68-204)	UMKC
202	AVENA SATIVA NV	CLAY	7/2/83	RAVEILL(1668)	UMKC
220	ALOPECURUS CAROLINIANUS NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(956)	UMKC
220	ALOPECURUS CAROLINIANUS NV	RAY	5/19/83	DELOZIER&RAVEILL(1015)	UMKC
222	MUHLENBERGIA CUSPIDATA NV	CLAY	7/15/83	RAVEILL(1681)	UMKC
225.10	MUHLENBERGIA SOBOLIFERA F.SETIGERA	NEWMADRID	10/28/78	O.OHMART(2191)	SEMO
227.99	MUHLENBERGIA BRACHYPHYLLA NV	RAY	9/25/82	DELOZIER,GIBBS&FRYE(553)	UMKC
229.99	MUHLENBERGIA SYLVATICA NV	RAY	9/5/82	DELOZIER&GIBBS(273)	UMKC
229.99	MUHLENBERGIA SYLVATICA NV	PLATTE	10/14/82	DELOZIER(721)	UMKC
231	MUHLENBERGIA SCHREBERI V.SCHREBERI	ST.FRANCOIS	9/25/76	K.THOMPSON(175)	SEMO
238	SPOROBOLUS HETEROLEPIS NV	BOONE	9/2/75	W.R.EDDLEMAN(NONE)	SEMO
240	SPOROBOLUS CRYPTANDRUS V.CRYPTANDRUS	SCOTT	11/3/76	OHMART(1674)	SEMO
255	LEPTOCHLOA FILIFORMIS V.FILIFORMIS	SCOTT	9/15/76	OHMART&THOMPSON(1566)	SEMO
255.99	LEPTOCHLOA FILIFORMIS NV	RAY	6/28/83	DELOZIER&RAVEILL(1235)	UMKC
256	ELEUSINE INDICA NV	CALLAWAY	10/10/83	DELOZIER,RAVEILL&GIBBS(1516)	UMKC
256	ELEUSINE INDICA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1430)	UMKC
256	ELEUSINE INDICA NV	LINCOLN	10/8/83	DELOZIER,RAVEILL&ELLIS(1504)	UMKC
260	SPARTINA PECTINATA NV	STODDARD	10/18/70	S.A.SUTTER(327)	SEMO
271	PHALARIS ARUNDINACEA NV	CHARITON	10/26/75	W.R.EDDLEMAN(NONE)	SEMO
271	PHALARIS ARUNDINACEA NV	SULLIVAN	7/11/84	DELOZIER(1589)	UMKC
273	LEERSIA LENTICULARIS NV	BOLLINGER	10/19/75	W.R.EDDLEMAN(NONE)	SEMO
278.99	DIGITARIA SANGUINALIS NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1361)	UMKC
278.99	DIGITARIA SANGUINALIS NV	LINCOLN	10/9/83	DELOZIER,RAVEILL&ELLIS(1506)	UMKC
279.99	DIGITARIA ISCHAEMUM NV	LINCOLN	10/8/83	DELOZIER,RAVEILL&ELLIS(1505)	UMKC
280.99	DIGITARIA FILIFORMIS NV	CLAY	10/6/83	RAVEILL(2017)	UMKC
288	PASPALUM FLUITANS NV	SCOTT	9/15/76	OHMART&THOMPSON(1581)	SEMO
289.99	PASPALUM PUBIFLORUM NV	CLAY	8/31/83	RAVEILL(1884)	UMKC
289.99	PASPALUM PUBIFLORUM NV	COOPER	10/10/83	DELOZIER,RAVEILL&ELLIS(289)	UMKC
306.10	PANICUM DICHOTOMUM V.BARBULATUM	NEWMADRID	6/9/71	K.CLEMENT(153)	SEMO
308.99	PANICUM LANUGINOSUM NV	CALDWELL	6/7/69	HENDERSON(69-118)	UMKC
321	PANICUM LATIFOLIUM NV	BOLLINGER	7/1/67	D.FISH(109)	SEMO
325	PANICUM DICHOTOMIFLORUM NV	NEWMADRID	10/28/78	O.OHMART(2189)	SEMO
325	PANICUM DICHOTOMIFLORUM NV	ANDREW	9/15/82	DELOZIER(484)	UMKC
325	PANICUM DICHOTOMIFLORUM NV	DOUGLAS	10/20/82	DELOZIER(760)	UMKC
325	PANICUM DICHOTOMIFLORUM NV	LAFAYETTE	9/17/82	DELOZIER(501)	UMKC
325	PANICUM DICHOTOMIFLORUM NV	RAY	9/5/82	DELOZIER&GIBBS(235)	UMKC
327	PANICUM GATTINGERI NV	CLAY	7/15/83	RAVEILL(1707)	UMKC
329	PANICUM CAPILLARE V.CAPILLARE	SCOTT	9/15/76	OHMART&THOMPSON(1567)	SEMO
330	PANICUM MILIACEUM NV	CLAY	8/24/82	RAVEILL(1838)	UMKC
331.99	PANICUM VIRGATUM NV	RAY	8/18/82	DELOZIER&RAVEILL(48)	UMKC
337	ECHINOCHLOA COLONUM NV	NEWMADRID	10/29/78	O.OHMART(2198)	SEMO
338.10	ECHINOCHLOA CRUSGALLI V.CRUSGALLI-F.LONGISETA	NEWMADRID	10/29/78	O.OHMART(2209)	SEMO
338.10	ECHINOCHLOA CRUSGALLI V.CRUSGALLI-F.LONGISETA	STODDARD	8/28/71	S.A.SUTTER(587)	SEMO
339	ECHINOCHLOA MURICATA V.MURICATA	SCOTT	9/15/76	OHMART&THOMPSON(1583)	SEMO
339.20	ECHINOCHLOA MURICATA V.OCCIDENTALIS	NEWMADRID	6/14/71	K.CLEMENT(207)	SEMO
339.30	ECHINOCHLOA MURICATA V.MICROSTACHYA	SCOTT	9/15/76	OHMART&THOMPSON(1578)	SEMO
339.99	ECHINOCHLOA MURICATA NV	CAMDEN	9/5/69	REDFEARN(26582)	UMKC
340	SETARIA GLAUCA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1422)	UMKC
340	SETARIA GLAUCA NV	COOPER	10/10/83	DELOZIER,RAVEILL&ELLIS(1529)	UMKC
340	SETARIA GLAUCA NV	BATES	8/28/84	DELOZIER(1608)	UMKC
340	SETARIA GLAUCA NV	DADE	8/28/84	DELOZIER(1623)	UMKC

341	SETARIA GENICULATA NV	BOONE	9/2/75	W.R.EDDLEMAN(NONE)	SEMO
343.99	SETARIA VIRIDIS NV	NEWMADRID	6/14/71	K.CLEMENT(185)	SEMO
343.99	SETARIA VIRIDIS NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1423)	UMKC
343.99	SETARIA VIRIDIS NV	COOPER	10/10/83	DELOZIER,RAVEILL&ELLIS(1526)	UMKC
343.99	SETARIA VIRIDIS NV	VERNON	9/17/83	DELOZIER&RAVEILL(1503)	UMKC
344	SETARIA FABERII NV	SCOTT	7/16/69	B.SCHUCHART(111)	SEMO
344.99	SETARIA FABERII NV	CALLAWAY	10/10/83	DELOZIER,RAVEILL&ELLIS(1517)	UMKC
344.99	SETARIA FABERII NV	MERCER	7/11/84	DELOZIER(1578)	UMKC
344.99	SETARIA FABERII NV	CEDAR	8/28/84	DELOZIER(1616)	UMKC
345	SETARIA ITALICA NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1393)	UMKC
346	CENCHRUS LONGISPINUS NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1372)	UMKC
362	TRIPSACUM DACTYLOIDES NV	PLATTE	7/12/83	DELOZIER&RAVEILL(1293)	UMKC
367	CYPERUS POLYSTACHYOS V.TEXENSIS	SCOTT	9/23/73	T.E.BROOKS(7310)	SEMO
368	CYPERUS ARISTATUS NV	SCOTT	9/15/76	OHMART&THOMPSON(1604)	SEMO
372	CYPERUS ERYTHRORHIZOS NV	SCOTT	9/15/76	OHMART&THOMPSON(1574)	SEMO
373	SPIRAEA VANHOUTTEI NV	STODDARD	5/9/70	C.HALL(42)	SEMO
374	CYPERUS ODORATUS V.SPHAERICUS	SCOTT	7/7/72	T.E.BROOKS(6621)	SEMO
375	CYPERUS FERRUGINESCENS NV	SCOTT	7/7/72	T.E.BROOKS(6626)	SEMO
378.10	CYPERUS ESCULENTUS V.ESCULENTUS-F.ANGUSTISPICATUS	STODDARD	6/25/72	T.E.BROOKS(6482)	SEMO
378.10	CYPERUS ESCULENTUS V.ESCULENTUS-F.ANGUSTISPICATUS	SCOTT	7/7/72	T.E.BROOKS(6635)	SEMO
378.99	CYPERUS ESCULENTUS NV	CLAY	8/24/83	RAVEILL(1866)	UMKC
380	CYPERUS REFRACTUS NV	SCOTT	7/2/72	T.E.BROOKS(6619)	SEMO
385	CYPERUS FILICULMIS V.FILICULMIS	CARTER	7/2/72	T.E.BROOKS(6563)	SEMO
385	CYPERUS FILICULMIS V.FILICULMIS	STONE	8/4/72	R.CLINARD(253)	SEMO
387.10	CYPERUS OVULARIS V.SPHAERICUS	NEWMADRID	6/14/71	K.CLEMENT(201)	SEMO
388.09	CYPERUS RETROFRACTUS NV	STODDARD	10/16/70	T.E.BROOKS(5970)	SEMO
391	ELEOCHARIS QUADRANGULATA V.CRASSIOR	ST.FRANCOIS	7/30/67	COOK(249)	SEMO
393.99	ELEOCHARIS ACICULARIS NV	CLAY	8/24/83	RAVEILL(1832)	UMKC
395	ELEOCHARIS ENGELMANNI F.DETONSA	SCOTT	6/1/73	T.E.BROOKS(7034)	SEMO
396	ELEOCHARIS OBTUSA V.OBTUSA	SCOTT	6/28/69	B.SCHUCHART(75)	SEMO
399	ELEOCHARIS MACROSTACHYA NV	SCOTT	6/19/75	T.E.BROOKS(7817)	SEMO
400	ELEOCHARIS CALVA NV	RIPLEY	7/2/76	OHMART(1190)	SEMO
402	ELEOCHARIS TENUIS V.VERRUCOSA	OREGON	5/17/69	ROBERTS(55)	SEMO
402	ELEOCHARIS TENUIS V.VERRUCOSA	PERRY	5/10/69	BESAND(66)	SEMO
402	ELEOCHARIS TENUIS V.VERRUCOSA	SCOTT	6/1/75	T.E.BROOKS(7785)	SEMO
402.99	ELEOCHARIS TENUIS NV	CLAY	6/11/83	RAVEILL(1597)	UMKC
406	FIMBRISTYLIS VAHLII NV	SCOTT	9/23/73	T.E.BROOKS(7313)	SEMO
407	FIMBRISTYLIS AUTUMNALIS NV	SCOTT	9/23/73	T.E.BROOKS(7308)	SEMO
421.20	SCIRPUS ATROVIRENS V.GEORGIANUS	STODDARD	6/15/69	J.LUTES(22)	SEMO
421.20	SCIRPUS ATROVIRENS V.GEORGIANUS	SCOTT	6/6/78	OHMART(2098)	SEMO
429	HEMICARPHA MICRANTHA NV	SCOTT	9/23/73	T.E.BROOKS(7305)	SEMO
430	RHYNCHOSPORA MACROSTACHYA NV	SCOTT	7/7/74	T.E.BROOKS(7423)	SEMO
431	RHYNCHOSPORA CORNICULATA V.CORNICULATA	SCOTT	7/14/78	OHMART(2148)	SEMO
431	RHYNCHOSPORA CORNICULATA V.INTERIOR	SCOTT	9/23/73	T.E.BROOKS(7278)	SEMO
449.10	CAREX CEPHALOPHORA V.MESOCHOREA	SCOTT	5/3/73	T.E.BROOKS(NONE)	SEMO
456	CAREX VULPINOIDEA NV	NEWMADRID	6/14/71	K.CLEMENT(178)	SEMO
457.10	CAREX ANNECTENS V.XANTHOCARPA	NEWMADRID	6/9/71	K.CLEMENT(122)	SEMO
466	CAREX MUSKINGAMENSIS NV	STODDARD	6/15/69	J.LUTES(18)	SEMO
467	CAREX SCOPARIA V.SCOPARIA-F.SCOPARIA	STODDARD	6/15/69	J.LUTES(25)	SEMO
471	CAREX NORMALIS F.NORMALIS	STODDARD	6/30/69	B.SCHUCHART(80)	SEMO
473	CAREX FESTUCACEA NV	STODDARD	6/15/69	J.LUTES(24)	SEMO
473	CAREX FESTUCACEA NV	SCOTT	6/4/78	OHMART(2086)	SEMO
482	CAREX JAMESII NV	MILLER	4/27/81	M.SKINNER(512)	SEMO
483	CAREX ARTITECTA NV	MILLER	3/20/82	M.SKINNER(573)	SEMO
493	CAREX MEADII NV	OREGON	5/17/69	ROBERTS(56)	SEMO

508.20	CAREX AMPHIBOLA V.TURGIDA	OREGON	5/17/69	J.HUCKABAY(NONE)	SEMO
509	CAREX FLACCOSPERMA V.FLACCOSPERMA	NEWMADRID	6/9/71	K.CLEMENT(150)	SEMO
518	CAREX CAROLINIANA NV	CLAY	6/24/83	RAVEILL(1634)	UMKC
522	CAREX SHORTIANA NV	SCOTT	5/6/70	L.ROBERTS(NONE)	SEMO
545.10	CAREX GRAYII V.HISPIDULA	NEWMADRID	5/17/69	J.HUCKABAY(NONE)	SEMO
546	CAREX INTUMESCENS V.INTUMESCENS	NEWMADRID	5/9/71	K.CLEMENT(103)	SEMO
551.20	ARISAEMA ATRORUBENS F.ZEBRINUM	SCOTT	5/6/70	S.MATLOCK(4)	SEMO
551.99	ARISAEMA ATRORUBENS NV	DENT	4/19/67	GILL(37)	SEMO
572	TRADESCANTIA OHIENSIS NV	NEWMADRID	6/9/71	K.CLEMENT(125)	SEMO
575	COMMELINA COMMUNIS NV	NEWMADRID	6/2/71	K.CLEMENT(129)	SEMO
579.40	COMMELINA ERECTA V.DEAMIANA	JEFFERSON	7/8/77	D.BRADLEY(NONE)	SEMO
579.40	COMMELINA ERECTA V.DEAMIANA	SCOTT	6/29/72	R.CLINARD(58)	SEMO
583	HETERANTHERA LIMOSA NV	STODDARD	7/26/70	S.A.SUTTER(155)	SEMO
590	JUNCUS TENUIS F.TENUIS	NEWMADRID	6/14/71	K.CLEMENT(181)	SEMO
591	JUNCUS INTERIOR NV	STODDARD	6/15/69	J.LUTES(31)	SEMO
604	JUNCUS NODATUS NV	SCOTT	6/10/75	T.E.BROOKS(7830)	SEMO
605	JUNCUS DIFFUSISSIMUS NV	NEWMADRID	6/14/71	K.CLEMENT(174)	SEMO
605	JUNCUS DIFFUSISSIMUS NV	WAYNE	6/30/72	T.E.BROOKS(6526)	SEMO
618	ALLIUM VINEALE F.VINEALE	BOLLINGER	6/24/67	D.FISH(5)	SEMO
618	ALLIUM VINEALE F.VINEALE	SCOTT	6/6/73	R.CLINARD(NONE)	SEMO
626	HEMEROCALLIS LILEO-ASPHODELUS NV	SCOTT	7/11/72	R.CLINARD(131)	SEMO
629	ERYTHRONIUM AMERICANUM NV	BOLLINGER	4/21/62	C.UNDERWOOD(NONE)	SEMO
629	ERYTHRONIUM AMERICANUM F.AMERICANUM	CARTER	4/17/71	L.ROBERTS(14)	SEMO
629.99	ERYTHRONIUM AMERICANUM NV	WAYNE	3/29/77	J.TOUCHETTE(25)	SEMO
630.99	ERYTHRONIUM ALBIDUM NV	DUNKLIN	4/11/82	K.FIESER(35)	SEMO
634	ORNITHOGALUM UMBELLATUM NV	FRANKLIN	5/9/69	B.ROBBINS(135)	SEMO
634	ORNITHOGALUM UMBELLATUM NV	MADISON	5/7/68	D.MCFARLAND(37)	SEMO
634	ORNITHOGALUM UMBELLATUM NV	SCOTT	5/7/71	J.BURGER(61)	SEMO
634	ORNITHOGALUM UMBELLATUM NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(991)	UMKC
634	ORNITHOGALUM UMBELLATUM NV	HARRISON	6/1/83	DELOZIER&RAVEILL(1130)	UMKC
636	MUSCARI BOTRYOIDES NV	STODDARD	4/15/68	M.BURLESON(16)	SEMO
639	ASPARAGUS OFFICINALIS NV	STODDARD	5/9/70	C.HALL(44)	SEMO
639	ASPARAGUS OFFICINALIS NV	SCOTT	7/14/69	SCHUCHART(106)	SEMO
639	ASPARAGUS OFFICINALIS NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1441)	UMKC
642.99	POLYGONATUM BIFLORUM NV	ST.FRANCOIS	5/18/68	MCFARLAND(60)	SEMO
642.99	POLYGONATUM BIFLORUM NV	WAYNE	5/2/70	D.CRITES(39)	SEMO
645.10	TRILLIUM SESSILE F.VIRIDIFLORUM	TEXAS	4/9/77	M.SKINNER(37)	SEMO
646	TRILLIUM VIRIDE V.VIRIDE	MADISON	5/4/52	F.H.BENTLEY(NONE)	SEMO
646	TRILLIUM VIRIDE V.VIRIDE	WAYNE	5/2/70	D.CRITES(26)	SEMO
660	NARCISSUS PSEUDO-NARCISSUS NV	DUNKLIN	4/4/70	S.MATLOCK(1)	SEMO
669	IRIS PALLIDA NV	STODDARD	5/20/68	M.BURLESON(73)	SEMO
677	SISYRINCHIUM ALBIDUM NV	MADISON	4/30/68	D.MCFARLAND(30)	SEMO
677	SISYRINCHIUM ALBIDUM NV	OREGON	4/17/71	A.MCCRATE(68)	SEMO
678	SISYRINCHIUM CAMPESTRE F.CAMPESTRE	RIPLEY	4/18/69	ROBERTS(15)	SEMO
679	SISYRINCHIUM BERMUDIANA NV	SCOTT	7/7/72	T.E.BROOKS(122)	SEMO
679	SISYRINCHIUM BERMUDIANA NV	DEKALB	5/31/83	DELOZIER&RAVEILL(1092)	UMKC
707	CORALLORHIZA WISTERIANA NV	WASHINGTON	10/7/78	M.SKINNER(285)	SEMO
708	CORALLORHIZA ODONTORHIZA NV	JACKSON	10/10/83	RAVEILL(2022)	UMKC
712	APLECTRUM HYEMALE NV	RAY	3/13/83	DELOZIER&RAVEILL(805)	UMKC
763	QUERCUS BICOLOR NV	BOLLINGER	10/2/49	ADAMS&WELLS(NONE)	SEMO
784	CELTIS OCCIDENTALIS V.OCCIDENTALIS	WASHINGTON	5/10/69	FURRY(38)	SEMO
786	CELTIS LAEVIGATA V.LAEVIGATA	ST.FRANCOIS	7/15/67	COOK(126)	SEMO
789	BROUSSONETIA PAPYRIFERA NV	SCOTT	5/6/70	L.ROBERTS&T.E.BROOKS(NONE)	SEMO
792	HUMULUS LUPULUS NV	PLATTE	7/12/83	DELOZIER&RAVEILL(1288)	UMKC
793	HUMULUS JAPONICUS NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1424)	UMKC

793	HUMULUS JAPONICUS NV	CLAY	8/31/83	RAVEILL(1923)	UMKC
793	HUMULUS JAPONICUS NV	HOWARD	8/8/83	DELOZIER&RAVEILL(1460)	UMKC
800	PARIETARIA PENSYLVANICA V.PENSYLVANICA	SCOTT	7/7/72	CLINARD&BROOKS(119)	SEMO
801	PHORADENDRON FLAVESCENS NV	BOLLINGER	7/2/67	COOK(50)	SEMO
803	ASARUM CANADENSE NV	IRON	5/2/81	E.EMERY(75)	SEMO
803	ASARUM CANADENSE NV	JEFFERSON	4/21/78	S.FERRELL(52)	SEMO
804.99	ARISTOLOCHIA SERPENTARIA NV	CLAY	8/24/83	RAVEILL(1817)	UMKC
804.99	ARISTOLOCHIA SERPENTARIA NV	RAY	5/31/83	DELOZIER&RAVEILL(1031)	UMKC
811	RUMEX ALTISSIMUS NV	PEMISCOT	7/15/72	R.CLINARD(149)	SEMO
811	RUMEX ALTISSIMUS NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1381)	UMKC
814	RUMEX CRISPUS NV	NEWMADRID	7/17/72	R.CLINARD(161)	SEMO
819	POLYGONUM PROLIFICUM NV	SCOTT	7/14/78	OHMART(2145)	SEMO
823	POLYGONUM AVICULARE V.AVICULARE	NEWMADRID	10/28/78	O.OHMART(2197)	SEMO
823.99	POLYGONUM AVICULARE NV	ATCHISON	6/27/84	DELOZIER&ELLIS(1573)	UMKC
823.99	POLYGONUM AVICULARE NV	BATES	8/28/84	DELOZIER(1607)	UMKC
823.99	POLYGONUM AVICULARE NV	CALDWELL	7/11/24	DELOZIER(1603)	UMKC
823.99	POLYGONUM AVICULARE NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1414)	UMKC
823.99	POLYGONUM AVICULARE NV	MONTGOMERY	10/10/83	DELOZIER,RAVEILL&ELLIS(1508)	UMKC
823.99	POLYGONUM AVICULARE NV	VERNON	8/28/84	DELOZIER(1614)	UMKC
826	POLYGONUM COCCINEUM V.COCCINEUM-F.COCCINEUM	JEFFERSON	8/21/77	M.SKINNER(NONE)	SEMO
829.10	POLYGONUM PENSYLVANICUM V.LAEVIGATUM-F.LAEVIGATUM	PEMISCOT	7/17/72	R.CLINARD(175)	SEMO
829.10	POLYGONUM PENSYLVANICUM V.LAEVIGATUM-F.LAEVIGATUM	SCOTT	7/7/72	CLINARD&BROOKS(111)	SEMO
829.20	POLYGONUM PENSYLVANICUM V.LAEVIGATUM-F.ALBINEUM	STODDARD	8/31/71	S.A.SUTTER(613)	SEMO
830	POLYGONUM LAPATHIFOLIUM V.LAPATHIFOLIUM	SCOTT	9/15/76	OHMART&THOMPSON(1572)	SEMO
832.10	POLYGONUM CESPITOSUM V.LONGISETUM	JACKSON	8/27/82	DELOZIER(165)	UMKC
833	POLYGONUM PERSICARIA V.PERSICARIA	SCOTT	7/7/72	CLINARD&BROOKS(110)	SEMO
833	POLYGONUM PERSICARIA NV	JOHNSON	8/22/82	DELOZIER&GIBBS(161)	UMKC
834	POLYGONUM PUNCTATUM V.PUNCTATUM	SCOTT	9/15/76	OHMART&THOMPSON(1559)	SEMO
835.20	POLYGONUM HYDROPIPEROIDES V.OPELOUSANUM	NEWMADRID	7/1/72	R.CLINARD(161)	SEMO
846.99	KOCHIA SCOPARIA NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1371)	UMKC
846.99	KOCHIA SCOPARIA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1426)	UMKC
849	CHENOPODIUM AMBROSIOIDES V.AMBROSIOIDES	SCOTT	9/15/76	OHMART&THOMPSON(1577)	SEMO
849.99	CHENOPODIUM AMBROSIOIDES NV	DOUGLAS	9/2/68	HENDERSON(68-878)	UMKC
849.99	CHENOPODIUM AMBROSIOIDES NV	ST.CLAIR	10/14/67	HENDERSON(67-1953)	UMKC
860	CHENOPODIUM ALBUM V.ALBUM	BOLLINGER	5/16/62	C.UNDERWOOD(3)	SEMO
860	CHENOPODIUM ALBUM V.ALBUM	SCOTT	9/15/76	OHMART&THOMPSON(1560)	SEMO
860.99	CHENOPODIUM ALBUM NV	ATCHISON	6/27/84	DELOZIER&ELLIS(1563)	UMKC
860.99	CHENOPODIUM ALBUM NV	GRUNDY	7/11/84	DELOZIER(1600)	UMKC
860.99	CHENOPODIUM ALBUM NV	PETTIS	10/3/82	DELOZIER(678)	UMKC
865.20	ATRIPLEX PATULA V.HASTATA	SCOTT	6/6/78	OHMART(2095)	SEMO
877	AMARANTHUS TAMARISCINUS NV	NEWMADRID	10/29/78	O.OHMART(2200)	SEMO
877	AMARANTHUS TAMARISCINUS NV	SCOTT	9/15/76	OHMART&THOMPSON(1573)	SEMO
878	AMARANTHUS PALMERI NV	CLAY	10/6/83	RAVEILL(1983)	UMKC
880	AMARANTHUS SPINOSUS NV	NEWMADRID	7/3/71	K.CLEMENT(167)	SEMO
880	AMARANTHUS SPINOSUS NV	SCOTT	7/20/67	JONES(NONE)	SEMO
882	AMARANTHUS HYBRIDUS NV	SCOTT	9/15/76	OHMART&THOMPSON(1570)	SEMO
888	IRESINE RHIZOMATOSA NV	CARTER	10/11/67	REDFEARN&PYRAH(22422)	UMKC
890	FROELICHIA GRACILIS NV	SCOTT	6/17/69	SCHUCHART(NONE)	SEMO
900	PORTULACA OLERACEA NV	SCOTT	10/6/76	OHMART&THOMPSON(1652)	SEMO
905.99	CLAYTONIA VIRGINICA NV	RIPLEY	4/20/62	D.KENNEDY(NONE)	SEMO
914	ARENARIA SERPYLLIFOLIA V.SERPYLLIFOLIA	SCOTT	5/6/70	B.HIPPER(65)	SEMO
914.99	ARENARIA SERPYLLIFOLIA NV	CLAY	5/16/83	RAVEILL(1482)	UMKC
918	STELLARIA MEDIA NV	DEKALB	5/31/83	DELOZIER&RAVEILL(1082)	UMKC
918	STELLARIA MEDIA NV	LIVINGSTON	5/4/83	RAVEILL(1472)	UMKC
918.90	STELLARIA MEDIA NV	SCOTT	4/11/73	T.E.BROOKS(NONE)	SEMO

922.99	CERASTIUM VULGATUM NV	CLINTON	5/19/83	DELOZIER&RAVEILL(940)	UMKC
922.99	CERASTIUM VULGATUM NV	RAY	6/7/83	RAVEILL(1147)	UMKC
922.99	CERASTIUM VULGATUM NV	CASS	5/4/84	DELOZIER&ELLIS(1535)	UMKC
924	CERASTIUM NUTANS NV	SCOTT	4/25/84	A.KROMA(44)	SEMO
924	CERASTIUM NUTANS NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(966)	UMKC
926	CERASTIUM VISCOSUM NV	SCOTT	4/11/73	T.E.BROOKS(NONE)	SEMO
926.99	CERASTIUM VISCOSUM NV	WRIGHT	4/20/83	DELOZIER&GIBBS(844)	UMKC
931	AGROSTEMMA GITHAGO NV	MADISON	5/18/68	D.MCFARLAND(54)	SEMO
938	SILENE CUCUBALUS NV	CLAY	7/2/83	RAVEILL(1659)	UMKC
945	SAPONARIA OFFICINALIS NV	NEWMADRID	7/11/72	R.CLINARD(136)	SEMO
945	SAPONARIA OFFICINALIS NV	RIPLEY	7/2/76	OHMART(1176)	SEMO
945	SAPONARIA OFFICINALIS NV	SCOTT	7/7/69	J.LUTES(NONE)	SEMO
945	SAPONARIA OFFICINALIS NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1415)	UMKC
945	SAPONARIA OFFICINALIS NV	CASS	9/7/82	DELOZIER&GIBBS(344)	UMKC
950	DIANTHUS PROLIFER NV	SHANNON	7/4/69	T.E.BROOKS(NONE)	SEMO
953	NUPHAR LUTEUM SP.MACROPHYLLUM	RIPLEY	5/14/76	OHMART(958)	SEMO
958	BRASENIA SCHREBERI NV	STODDARD	6/13/69	LUTES(14)	SEMO
971	DELPHINIUM AJACIS NV	STODDARD	6/21/69	B.SCHUCHART(58)	SEMO
972	DELPHINIUM TRICORNE F.TRICORNE	CARTER	5/7/72	BLIGGENSTORFER(46)	SEMO
972	DELPHINIUM TRICORNE F.TRICORNE	MADISON	4/27/68	B.TINNIN(37)	SEMO
977	ISOPYRUM BITERNATUM NV	MADISON	4/29/75	K.THOMPSON(NONE)	SEMO
977	ISOPYRUM BITERNATUM NV	WAYNE	3/14/77	J.TOUCHETTE(52)	SEMO
983	RANUNCULUS MICRANTHUS V.MICRANTHUS	REYNOLDS	4/8/78	C.BERKBIGLER(19)	SEMO
983	RANUNCULUS MICRANTHUS V.MICRANTHUS	SCOTT	5/4/80	M.PIGG(186)	SEMO
983.10	RANUNCULUS MICRANTHUS V.DELITESCENS	WAYNE	4/25/70	D.CRITES(19)	SEMO
983.10	RANUNCULUS MICRANTHUS V.DELITESCENS	SCOTT	4/25/84	J.BROWN(90)	SEMO
984	RANUNCULUS HARVEYI F.HARVEYI	OREGON	4/17/71	K.CLEMENT(29)	SEMO
991	RANUNCULUS SEPTENTRIONALIS V.SEPTENTRIONALIS	NEWMADRID	4/9/71	K.CLEMENT(NONE)	SEMO
991	RANUNCULUS SEPTENTRIONALIS V.SEPTENTRIONALIS	ST.FRANCOIS	4/26/80	M.PIGG(93)	SEMO
991.99	RANUNCULUS SEPTENTRIONALIS NV	OREGON	4/17/71	J.BURGER(25)	SEMO
991.99	RANUNCULUS SEPTENTRIONALIS NV	RAY	5/4/83	DELOZIER&RAVEILL(923)	UMKC
992	RANUNCULUS HISPIDUS V.HISPIDUS	MADISON	4/29/78	S.SAGO(45)	SEMO
992	RANUNCULUS HISPIDUS V.HISPIDUS	STODDARD	4/19/69	OVERALL(46)	SEMO
993.10	RANUNCULUS FASCICULARIS V.APRICUS	STODDARD	4/6/63	E.LACY(NONE)	SEMO
994	RANUNCULUS PARVIFLORUS NV	OREGON	4/17/71	K.CLEMENT(46)	SEMO
995.10	RANUNCULUS SARDOUS NV	STODDARD	5/15/71	J.HILL(95)	SEMO
997	MYOSURUS MINIMUS NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(964)	UMKC
997	MYOSURUS MINIMUS NV	HENRY	5/4/84	DELOZIER&ELLIS(1544)	UMKC
997	MYOSURUS MINIMUS NV	JOHNSON	5/4/84	DELOZIER&ELLIS(1538)	UMKC
1002.10	HEPATICA NOBILIS V.ACUTA-F.ACUTA	SCOTT	4/25/84	J.BROWN(70)	SEMO
1003	ANEMONELLA THALICTROIDES F.THALICTROIDES	MADISON	4/6/68	B.TINNIN(45)	SEMO
1003	ANEMONELLA THALICTROIDES F.THALICTROIDES	RIPLEY	4/17/77	R.LASSEN(76)	SEMO
1009	CLEMATIS CRISPA NV	BOLLINGER	4/30/72	G.BOHNERT(59)	SEMO
1023	STYLOPHORUM DIPHYLLUM NV	FRANKLIN	4/26/59	D.G.RHODES(NONE)	SEMO
1031	DICENTRA CANADENSIS NV	FRANKLIN	4/26/59	D.G.RHODES(NONE)	SEMO
1035	CORYDALIS MALEI NV	NEWMADRID	4/21/84	K.BANKS(45)	SEMO
1038	BRASSICA HIRTA NV	NEWMADRID	5/23/70	S.MATLOCK(10)	SEMO
1042	BRASSICA RAPA NV	NEWMADRID	4/14/68	DOWNING(20)	SEMO
1043	BRASSICA NAPUS V.NAPOBRASSICA	SCOTT	5/9/71	J.BURGER(62)	SEMO
1049	LEPIDIUM CAMPESTRE NV	STODDARD	5/2/76	T.WILLS(NONE)	SEMO
1049	LEPIDIUM CAMPESTRE NV	WORTH	6/1/83	DELOZIER&RAVEILL(1115)	UMKC
1051	LEPIDIUM VIRGINICUM V.VIRGINICUM	NEWMADRID	4/24/77	R.K.NEWMAN(59)	SEMO
1051	LEPIDIUM VIRGINICUM NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1434)	UMKC
1051	LEPIDIUM VIRGINICUM NV	CLINTON	5/19/83	DELOZIER&RAVEILL(935)	UMKC
1051	LEPIDIUM VIRGINICUM NV	GENTRY	5/31/83	DELOZIER&RAVEILL(1096)	UMKC

1051	LEPIDIUM VIRGINICUM NV	HOWARD	8/8/83	DELOZIER&RAVEILL(1458) UMKC
1051	LEPIDIUM VIRGINICUM NV	PETTIS	6/14/83	DELOZIER(1177) UMKC
1052	LEPIDIUM DENSIFLORUM NV	ATCHISON	6/27/84	DELOZIER&ELLIS(1572) UMKC
1056	THLASPI ARVENSE NV	SCOTT	5/3/71	J.BURGER(37) SEMO
1057	THLASPI PERFOLIATUM NV	SHANNON	4/23/83	O.OHMART(2593) SEMO
1057	THLASPI PERFOLIATUM NV	OZARK	4/21/83	DELOZIER&GIBBS(857) UMKC
1062.99	DRABA VERNA NV	DOUGLAS	4/21/83	DELOZIER&GIBBS(8548) UMKC
1063	DRABA BRACHYCARPA NV	CLAY	4/30/83	RAVEILL(1436) UMKC
1063	DRABA BRACHYCARPA NV	RAY	5/4/83	DELOZIER&RAVEILL(922) UMKC
1063	DRABA BRACHYCARPA NV	LIVINGSTON	5/4/83	RAVEILL(1465) UMKC
1065.99	DRABA REPTANS NV	DOUGLAS	4/21/83	DELOZIER&GIBBS(854A) UMKC
1075	CARDAMINE PARVIFLORA V.ARENICOLA	NEWMADRID	4/9/71	K.CLEMENT(19) SEMO
1078	SIBARA VIRGINICA NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(957) UMKC
1078	SIBARA VIRGINICA NV	RAY	5/4/83	DELOZIER&RAVEILL(914) UMKC
1078	SIBARA VIRGINICA NV	LIVINGSTON	5/4/83	RAVEILL(1466) UMKC
1079	ARABIS LYRATA V.LYRATA-F.LYRATA	SCOTT	5/3/71	J.BURGER(30) SEMO
1079.10	ARABIS LYRATA V.LYRATA-F.PARVISILIQUA	NEWMADRID	4/3/53	O.RHODES(73) SEMO
1083.99	ARABIS SHORTII NV	OZARK	4/21/83	DELOZIER&GIBBS(855) UMKC
1086	RORIPPA SYLVESTRIS NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1394) UMKC
1086	RORIPPA SYLVESTRIS NV	CLAY	7/2/83	RAVEILL(1648) UMKC
1088	RORIPPA SESSILIFLORA NV	SCOTT	9/15/76	OHMART&THOMPSON(1585) SEMO
1090.10	RORIPPA ISLANDICA V.FERNALDIANA	SCOTT	9/15/76	OHMART&THOMPSON(1597) SEMO
1091.99	BARBAREA VULGARIS NV	PERRY	4/17/80	R.BOLTON(153) SEMO
1093	CHORISPORA TENELLA NV	RAY	5/4/83	DELOZIER&RAVEILL(908) UMKC
1094	HESPERIS MATRONALIS NV	GENTRY	5/31/83	DELOZIER&RAVEILL(1100) UMKC
1094	HESPERIS MATRONALIS NV	RAY	5/19/83	DELOZIER&RAVEILL(1021) UMKC
1094	HESPERIS MATRONALIS NV	WORTH	6/1/83	DELOZIER&RAVEILL(1128) UMKC
1097	ERYSIMUM REPANDUM NV	NEWMADRID	4/24/77	R.K.NEWMAN(64) SEMO
1097	ERYSIMUM REPANDUM NV	PERRY	4/4/81	R.BOLTON(65) SEMO
1101	SISYMBRIUM LOESELII NV	JACKSON	8/11/83	RAVEILL(1809) UMKC
1105.10	DESCURAINIA PINNATA V.BRACHYCARPA	SCOTT	5/1/77	M.SKINNER(119) SEMO
1106	DESCURAINIA SOPHIA NV	RAY	6/28/83	DELOZIER&RAVEILL(1255) UMKC
1108	CLEOME HOUTTEANA NV	JEFFERSON	8/21/77	M.SKINNER(1) SEMO
1112	SEDUM PULCHELLUM NV	SCOTT	7/68	T.E.BROOKS(NONE) SEMO
1113	SEDUM SARMENTOSUM NV	PETTIS	10/3/82	DELOZIER(660) UMKC
1116	PENTHORUM SEDOIDES NV	SCOTT	9/15/76	OHMART&THOMPSON(1598) SEMO
1150	PYRUS IOENSIS NV	RAY	5/4/83	DELOZIER&RAVEILL(920) UMKC
1205.10	FRAGARIA VIRGINIANA V.ILLINOENSIS	IRON	5/2/81	E.EMERY(85) SEMO
1205.10	FRAGARIA VIRGINIANA V.ILLINOENSIS	MADISON	4/16/68	B.TINNIN(43) SEMO
1205.10	FRAGARIA VIRGINIANA V.ILLINOENSIS	RIPLEY	4/18/69	ROBERTS(12) SEMO
1205.99	FRAGARIA VIRGINIANA NV	ATCHISON	6/27/84	DELOZIER&ELLIS(1564) UMKC
1205.99	FRAGARIA VIRGINIANA NV	WORTH	6/1/83	DELOZIER&RAVEILL(1119) UMKC
1205.99	FRAGARIA VIRGINIANA NV	PETTIS	6/7/84	DELOZIER(1553) UMKC
1207	DUCHESNEA INDICA NV	PEMISCOT	4/10/83	R.SLINKARD(36) SEMO
1207	DUCHESNEA INDICA NV	SCOTT	4/2/77	D.SEYER(33) SEMO
1209	POTENTILLA SIMPLEX V.SIMPLEX	STODDARD	4/24/77	C.HILLIS(NONE) SEMO
1209.20	POTENTILLA SIMPLEX V.ARGYRISMA	PERRY	4/5/76	O.CATTOOR(62) SEMO
1215	POTENTILLA RECTA NV	BOLLINGER	5/17/70	N.P.DRISKA(49) SEMO
1219	GEUM CANADENSE V.CANADENSE	NEWMADRID	6/9/71	K.CLEMENT(126) SEMO
1219.10	GEUM CANADENSE V.CAMPORUM	STODDARD	6/13/69	J.LUTES(117) SEMO
1227	RUBUS FLAGELLARIS V.OCCIDUALIS	SCOTT	7/7/72	CLINARD&BROOKS(108) SEMO
1229	RUBUS INVISUS NV	DENT	5/11/68	PRATT(52) SEMO
1229	RUBUS INVISUS NV	PEMISCOT	5/3/68	DOWNING(43) SEMO
1229	RUBUS INVISUS NV	STODDARD	5/5/62	G.BAUMKER(NONE) SEMO
1229	RUBUS INVISUS NV	SCOTT	5/3/71	J.BURGER(29) SEMO

1239	AGRIMONIA PARVIFLORA NV	CEDAR	8/26/72	S.A.SUTTER(844)	SEMO
1242	ROSA MULTIFLORA NV	RAY	6/7/83	DELOZIER(1143)	UMKC
1251	ROSA CAROLINA V.CAROLINA	NEWMADRID	6/9/71	K.CLEMENT(122)	SEMO
1260	PRUNUS HORTULANA NV	RIPLEY	4/20/62	D.KENNEDY(NONE)	SEMO
1260	PRUNUS HORTULANA NV	RAY	4/27/83	DELOZIER(883)	UMKC
1261	PRUNUS MUNSONIANA NV	RAY	4/27/83	DELOZIER(889)	UMKC
1262	PRUNUS ANGUSTIFOLIA V.ANGUSTIFOLIA	ST.FRANCOIS	4/8/78	SAGO(6)	SEMO
1263	PRUNUS PERSICA NV	RAY	4/27/83	DELOZIER(902)	UMKC
1266	PRUNUS SEROTINA NV	DENT	4/21/67	GILL(36)	SEMO
1273.10	GLEDITSIA TRIACANTHOS V.INERMIS	BOLLINGER	4/1/63	ED.LACY(NONE)	SEMO
1279	CASSIA FASCICULATA V.FASCICULATA-F.FASCICULATA	JEFFERSON	6/19/77	M.TOWLER(NONE)	SEMO
1280	CASSIA NICTITANS V.NICTITANS	CEDAR	8/26/72	S.A.SUTTER(842)	SEMO
1283.99	BAPTISIA LEUCOPHAEA NV	RAY	5/19/83	DELOZIER&RAVEILL(1019)	UMKC
1284	BAPTISIA LEUCANTHA NV	BUCHANAN	6/12/83	DELOZIER&RAVEILL(1305)	UMKC
1284	BAPTISIA LEUCANTHA NV	PLATTE	7/11/83	DELOZIER&RAVEILL(1280)	UMKC
1289	TRIFOLIUM PRATENSE V.PRATENSE-F.PRATENSE	PEMISCOT	7/15/72	R.CLINARD(150)	SEMO
1289.99	TRIFOLIUM PRATENSE NV	GENTRY	5/31/83	DELOZIER&RAVEILL(1101)	UMKC
1289.99	TRIFOLIUM PRATENSE NV	WORTH	6/1/83	DELOZIER&RAVEILL(1113)	UMKC
1293	TRIFOLIUM REPENS F.REPENS	MADISON	5/14/68	B.TINNIN(35)	SEMO
1293	TRIFOLIUM REPENS NV	DEKALB	5/31/83	DELOZIER&RAVEILL(1093)	UMKC
1293.99	TRIFOLIUM REPENS NV	ST.FRANCOIS	7/15/67	COOK(152)	SEMO
1299	TRIFOLIUM CAMPESTRE NV	ST.FRANCOIS	5/19/68	MCFARLAND(60)	SEMO
1299	TRIFOLIUM CAMPESTRE NV	RAY	6/28/83	DELOZIER&RAVEILL(1222)	UMKC
1300	TRIFOLIUM DUBIUM NV	NEWMADRID	5/3/63	D.W.HODGES(117)	SEMO
1300	TRIFOLIUM DUBIUM NV	STODDARD	5/1/71	K.CLEMENT(88)	SEMO
1301	MEDICAGO SATIVA NV	JEFFERSON	7/10/77	T.JURKOVICH(NONE)	SEMO
1301	MEDICAGO SATIVA NV	SCOTT	7/7/69	DUFUR(88)	SEMO
1301	MEDICAGO SATIVA NV	PUTNAM	7/11/84	DELOZIER(1580)	UMKC
1302	MEDICAGO LUPULINA V.LUPULINA	OREGON	4/17/71	K.CLEMENT(51)	SEMO
1302.10	MEDICAGO LUPULINA V.GLANDULOSA	NEWMADRID	7/1/72	R.CLINARD(72)	SEMO
1302.99	MEDICAGO LUPULINA NV	HARRISON	6/1/83	DELOZIER&RAVEILL(1132)	UMKC
1302.99	MEDICAGO LUPULINA NV	RAY	10/1/82	DELOZIER(624)	UMKC
1305	MELILOTUS OFFICINALIS NV	NEWMADRID	6/14/71	K.CLEMENT(173)	SEMO
1306	MELILOTUS ALBUS NV	CHRISTIAN	8/5/72	R.CLINARD(261)	SEMO
1308	LOTUS CORNICULATUS NV	DAVIESS	6/1/83	DELOZIER&RAVEILL(1136A)	UMKC
1308	LOTUS CORNICULATUS NV	GRUNDY	7/11/84	DELOZIER(1601)	UMKC
1308	LOTUS CORNICULATUS NV	LIVINGSTON	7/11/84	DELOZIER(1602)	UMKC
1308	LOTUS CORNICULATUS NV	MERCER	7/11/84	DELOZIER(1576)	UMKC
1308	LOTUS CORNICULATUS NV	PETTIS	6/7/84	DELOZIER(1561A)	UMKC
1308	LOTUS CORNICULATUS NV	PLATTE	7/12/83	DELOZIER&RAVEILL(1314)	UMKC
1308	LOTUS CORNICULATUS NV	PUTNAM	7/11/84	DELOZIER(1581)	UMKC
1308	LOTUS CORNICULATUS NV	LINN	5/18/84	DELOZIER&ZELK(1548A)	UMKC
1320	AMORPHA CANESCENS F.CANESCENS	STODDARD	7/14/69	J.LUTES(97)	SEMO
1323.10	TEPHROSIA VIRGINIANA V.HOLOSERICEA	ST.FRANCOIS	7/1/67	COOK(70)	SEMO
1326	ROBINIA PSEUDO-ACACIA NV	WAYNE	4/25/70	D.CRITES(74)	SEMO
1326	ROBINIA PSEUDO-ACACIA NV	STODDARD	5/9/70	C.HALL(45)	SEMO
1326	ROBINIA PSEUDO-ACACIA NV	SCOTT	5/10/71	J.BURGER(59)	SEMO
1327	ROBINIA HISPIDA V.HISPIDA	JEFFERSON	4/11/81	D.CONSTANTZ(24)	SEMO
1347	DESMODIUM CANADENSE NV	OREGON	9/3/73	J.WANDEL(NONE)	SEMO
1355	LESPEDEZA PROCUMBENS V.PROCUMBENS	NEWMADRID	7/17/72	R.CLINARD(157)	SEMO
1366	LESPEDEZA CUNEATA NV	PERRY	4/5/76	D.CATTOOR(58)	SEMO
1368	LESPEDEZA STIPULACEA NV	CALLOWAY	10/10/83	DELOZIER,RAVEILL&ELLIS(1518)	UMKC
1368	LESPEDEZA STIPULACEA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1429)	UMKC
1371	VICIA SATIVA V.NIGRA	NEWMADRID	4/21/84	K.BANKS(43)	SEMO
1378	VICIA VILLOSA F.VILLOSA	NEWMADRID	5/8/71	K.CLEMENT(96)	SEMO

1378	VICIA VILLOSA F.VILLOSA	PEMISCOT	7/17/72	R.CLINARD(172)	SEMO
1379	VICIA DASYCARPA NV	BOLLINGER	4/29/76	B.HANNER(46)	SEMO
1384	LATHYRUS HIRSUTUS NV	NEWMADRID	6/24/72	R.CLINARD(38)	SEMO
1384	LATHYRUS HIRSUTUS NV	SCOTT	6/6/73	R.CLINARD(NONE)	SEMO
1385	LATHYRUS LATIFOLIUS NV	NEWMADRID	5/23/70	S.MATLOCK(18)	SEMO
1385	LATHYRUS LATIFOLIUS NV	WEBSTER	8/5/72	R.CLINARD(269)	SEMO
1385	LATHYRUS LATIFOLIUS NV	SCOTT	7/25/72	R.CLINARD(229)	SEMO
1385	LATHYRUS LATIFOLIUS NV	RAY	6/28/83	DELOZIER&RAVEILL(1230)	UMKC
1406	LINUM MEDIUM V.TEXANUM	CARTER	7/9/77	N.STEWARD(NONE)	SEMO
1409	OXALIS CORNICULATA NV	DENT	5/10/68	PRATT(43)	SEMO
1409	OXALIS CORNICULATA NV	PERRY	5/3/69	BESAND(42)	SEMO
1409	OXALIS CORNICULATA NV	WAYNE	4/26/71	B.TURNER(64)	SEMO
1409	OXALIS CORNICULATA NV	STODDARD	5/2/70	C.HALL(15)	SEMO
1409	OXALIS CORNICULATA NV	SCOTT	5/6/71	C.MCCULLOUGH(15)	SEMO
1410	OXALIS DILLENII SP.DILLENII	PEMISCOT	7/17/72	R.CLINARD(167)	SEMO
1410.99	OXALIS DILLENII NV	ST.FRANCOIS	7/9/67	COOK(113)	SEMO
1410.99	OXALIS DILLENII NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(961)	UMKC
1410.99	OXALIS DILLENII NV	PETTIS	6/7/84	DELOZIER(1556)	UMKC
1411	OXALIS STRICTA NV	ATCHISON	6/27/84	DELOZIER&ELLIS(1562)	UMKC
1411	OXALIS STRICTA NV	CALLAWAY	10/10/83	DELOZIER,RAVEILL&ELLIS(1519)	UMKC
1411	OXALIS STRICTA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1442)	UMKC
1413	GERANIUM CAROLINIANUM V.CAROLINIANUM	NEWMADRID	5/8/71	K.CLEMENT(177)	SEMO
1413.99	GERANIUM CAROLINIANUM NV	CALDWELL	5/31/83	DELOZIER&RAVEILL(1077)	UMKC
1413.99	GERANIUM CAROLINIANUM NV	PETTIS	6/7/84	DELOZIER(1555)	UMKC
1415	GERANIUM PUSILLUM NV	CLAY	7/2/83	RAVEILL(1651)	UMKC
1418	TRIBULUS TERRESTRIS NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1369)	UMKC
1424.10	POLYGALA SENEGA V.LATIFOLIA	WAYNE	6/28/72	S.A.SUTTER(741)	SEMO
1431	CROTON GLANDULOSUS V.SEPTENTRIONALIS	CEDAR	8/26/72	S.A.SUTTER(841)	SEMO
1431	CROTON GLANDULOSUS V.SEPTENTRIONALIS	NEWMADRID	7/12/72	R.CLINARD(144)	SEMO
1431	CROTON GLANDULOSUS V.SEPTENTRIONALIS	STONE	8/3/72	R.CLINARD(254)	SEMO
1433	CROTON MONANTHOGYNUS NV	STODDARD	10/18/70	SUTTER&BROOKS(290)	SEMO
1437	ACALYPHA OSTRYAEFOLIA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1444)	UMKC
1440	ACALYPHA GRACILENS V.GRACILENS	STODDARD	8/31/71	S.A.SUTTER(616)	SEMO
1444.99	EUPHORBIA DENTATA NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1367)	UMKC
1445	EUPHORBIA HETEROPHYLLA V.HETEROPHYLLA	NEWMADRID	7/25/76	C.THOMAS(1)	SEMO
1447	EUPHORBIA OBTUSATA NV	RIPLEY	5/14/76	OHMART(971)	SEMO
1449	EUPHORBIA CYPARISSIAS NV	RAY	5/19/83	DELOZIER&RAVEILL(1022)	UMKC
1452	EUPHORBIA MARGINATA NV	PERRY	7/28/67	BUCHHEIT(100)	SEMO
1453.20	EUPHORBIA COROLLATA V.PANICULATA	CEDAR	8/26/72	S.A.SUTTER(845)	SEMO
1456	EUPHORBIA SERPENS NV	SCOTT	9/15/76	OHMART&THOMPSON(1587)	SEMO
1458	EUPHORBIA SUPINA NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1360)	UMKC
1458	EUPHORBIA SUPINA NV	DADE	8/28/84	DELOZIER(1625)	UMKC
1459	EUPHORBIA HUMISTRATA NV	CASS	10/8/73	NORTON(299/73)	UMKC
1482.20	ACER SACCHARUM V.SACCHARUM-F.SCHNECKII	JEFFERSON	4/17/65	M.BAUMANN(1)	SEMO
1483.99	ACER NIGRUM NV	STODDARD	5/1/63	E.LACY(NONE)	SEMO
1492	IMPATIENS CAPENSIS NV	NEWMADRID	6/30/71	K.CLEMENT(157)	SEMO
1515	ALTHAEA ROSEA NV	NEWMADRID	7/17/72	R.CLINARD(158)	SEMO
1526	SPHAERALCEA ANGUSTA NV	LAWRENCE	9/29/50	PALMER(51208)	UMKC
1529	ANODA CRISTATA V.CRISTATA	STODDARD	9/15/83	J.LAWRENCE(NONE)	SEMO
1530	ABUTILON THEOPHRASTI NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1427)	UMKC
1531	HIBISCUS SYRIACUS NV	SCOTT	8/6/77	OHMART(1983)	SEMO
1533	HIBISCUS MILITARIS NV	STE.GENEVIEVE	7/16/77	M.TOWLER(NONE)	SEMO
1534	HIBISCUS TRIONUM NV	CALLAWAY	10/10/83	DELOZIER,RAVEILL&ELLIS(1514)	UMKC
1537	HYPERICUM PERFORATUM NV	BOLLINGER	6/24/75	W.TEETERS(42)	SEMO
1537	HYPERICUM PERFORATUM NV	REYNOLDS	7/2/77	T.JURKOVICH(NONE)	SEMO

1550	BERGIA TEXANA NV	RAY	6/28/83	DELOZIER&RAVEILL(1233)	UMKC
1557.10	VIOLA PEDATA V.LINEARILOBA-F.LINEARILOBA	MADISON	4/20/68	B.TINNIN(51)	SEMO
1557.10	VIOLA PEDATA V.LINEARILOBA-F.LINEARILOBA	WASHINGTON	4/10/81	C.JONES(44)	SEMO
1557.10	VIOLA PEDATA V.LINEARILOBA-F.LINEARILOBA	WAYNE	4/25/70	D.CRITES(22)	SEMO
1557.19	VIOLA PEDATA V.LINEARILOBA	CARTER	5/7/72	BLIGGENSTORFER(46)	SEMO
1559.99	VIOLA PAPILIONACEA NV	PEMISCOT	4/6/68	DOWNING(5)	SEMO
1559.99	VIOLA PAPILIONACEA NV	RIPLEY	4/20/62	D.KENNEDY(NONE)	SEMO
1559.99	VIOLA PAPILIONACEA NV	STE.GENEVIEVE	4/27/72	G.BECKER(73)	SEMO
1561	VIOLA SERORIA F.SERORIA	MADISON	4/30/76	S.HILL(NONE)	SEMO
1561	VIOLA SORORIA F.SERORIA	SCOTT	5/3/71	J.BURGER(43)	SEMO
1568	VIOLA PENSYLVANICA V.PENSYLVANICA	CARTER	4/17/71	J.BURGER(13)	SEMO
1571	VIOLA KITAIBELIANA NV	CLINTON	5/19/83	DELOZIER&RAVEILL(943)	UMKC
1571	VIOLA KITAIBELIANA NV	LIVINGSTON	5/4/83	RAVEILL(1467)	UMKC
1573	PASSIFLORA INCARNATA NV	RIPLEY	7/2/76	OHMART(1182)	SEMO
1582	AMMANNIA COCCINEA NV	NEWMADRID	10/29/78	O.OHMART(2205)	SEMO
1584	LYTHRUM ALATUM NV	PLATTE	7/12/83	DELOZIER&RAVEILL(1287)	UMKC
1593	JUSSIAEA LEPTOCARPA V.LEPTOCARPA	SCOTT	9/15/76	OHMART&THOMPSON(1595)	SEMO
1602	OENOTHERA BIENNIS V.BIENNIS	NEWMADRID	7/17/77	N.STEWARD(NONE)	SEMO
1602.99	OENOTHERA BIENNIS NV	BATES	8/28/84	DELOZIER(1602)	UMKC
1602.99	OENOTHERA BIENNIS NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1377)	UMKC
1602.99	OENOTHERA BIENNIS NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1449)	UMKC
1605	OENOTHERA LACINIATA V.LACINIATA	WAYNE	5/2/70	D.CRITES(80)	SEMO
1605.10	OENOTHERA LACINIATA V.GRANDIFLORA	STODDARD	8/18/71	S.A.SUTTER(496)	SEMO
1608	OENOTHERA LINIFOLIA NV	PETTIS	6/14/82	DELOZIER&GIBBS(1167)	UMKC
1613	OENOTHERA SPECIOSA NV	BOLLINGER	5/17/70	N.P.DRISKA(38)	SEMO
1613	OENOTHERA SPECIOSA NV	MADISON	5/18/68	B.TINNIN(62)	SEMO
1613	OENOTHERA SPECIOSA NV	NEWMADRID	4/24/77	R.K.NEWMAN(57)	SEMO
1613	OENOTHERA SPECIOSA NV	SCOTT	5/14/71	J.BURGER(99)	SEMO
1615	OENOTHERA TRILOBA NV	CAMDEN	4/24/81	M.SKINNER(501)	SEMO
1636	CHAEROPHYLLUM PROCUMBENS NV	STODDARD	4/28/68	M.BURLESON(87)	SEMO
1636	CHAEROPHYLLUM PROCUMBENS NV	SCOTT	5/15/66	S.RHODES(NONE)	SEMO
1641.20	OSMORHIZA LONGISTYLIS V.VILLICAULIS	SCOTT	5/1/82	G.HENSON(112)	SEMO
1641.99	OSMORHIZA LONGISTYLIS NV	RAY	5/19/83	DELOZIER&RAVEILL(1006)	UMKC
1642	TORILIS JAPONICA NV	NEWMADRID	6/14/71	K.CLEMENT(171)	SEMO
1642	TORILIS JAPONICA NV	GRUNDY	7/11/84	DELOZIER(1597)	UMKC
1653	ZIZIA AUREA F.AUREA	DENT	5/2/68	M.BURLESON(40)	SEMO
1664	PTILIMNIUM COSTATUM NV	NEWMADRID	6/23/71	K.CLEMENT(NONE)	SEMO
1670.99	THASPIUM TRIFOLIATUM NV	DEKALB	5/31/83	DELOZIER&RAVEILL(1090)	UMKC
1678	HERACLEUM MAXIMUM NV	GENTRY	6/1/83	DELOZIER&RAVEILL(1094)	UMKC
1678	HERACLEUM MAXIMUM NV	WORTH	6/1/83	DELOZIER&RAVEILL(1129)	UMKC
1679	DAUCUS CAROTA F.CAROTA	CHRISTIAN	8/5/72	R.CLINARD(262)	SEMO
1679	DAUCUS CAROTA F.CAROTA	NEWMADRID	6/14/71	K.CLEMENT(196)	SEMO
1679	DAUCUS CAROTA NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1309)	UMKC
1679	DAUCUS CAROTA NV	DADE	8/28/84	DELOZIER(1624)	UMKC
1679.20	DAUCUS CAROTA F.EPURPURATUS	STONE	6/25/72	R.CLINARD(46)	SEMO
1690	MONOTROPA HYPOPITHYS NV	ST.FRANCOIS	7/4/67	COOK(92)	SEMO
1697	ANDROSACE OCCIDENTALIS NV	DOUGLAS	4/21/83	DELOZIER&GIBBS(850)	UMKC
1698	DODECATHEON MEADIA V.MEADIA-F.MEADIA	WAYNE	5/2/70	D.CRITES(62)	SEMO
1698.10	DODECATHEON MEADIA V.MEADIA-F.SEDENS	MADISON	4/27/68	B.TINNIN(11)	SEMO
1698.40	DODECATHEON MEADIA V.BRACHYCARPA-F.PALLIDUM	CARTER	5/7/72	T.GAITHER(59)	SEMO
1703	LYSIMACHIA CILIATA NV	ATCHISON	6/27/84	DELOZIER&ELLIS(1565A)	UMKC
1705	LYSIMACHIA HYBRIDA NV	CEDAR	8/26/72	S.A.SUTTER(843)	SEMO
1713	DIOSPYROS VIRGINIANA NV	RAY	5/31/83	DELOZIER&RAVEILL(1033)	UMKC
1720	FORESTIERA ACUMINATA NV	SCOTT	10/6/76	OHMART&THOMPSON(1654)	SEMO
1721	CHIONANTHUS VIRGINICA NV	CLAY	5/28/83	RAVEILL(1524)	UMKC

1727	SABATIA ANGULARIS F.ANGULARIS	ST.FRANCOIS	7/30/67	COOK(243)	SEMO
1732	GENTIANA QUINQUEFOLIA V.OCCIDENTALIS	TEXAS	10/13/79	M.SKINNER(134)	SEMO
1742.20	AMSONIA TABERNAEMONTANA V.GATTINGERI	CARTER	5/27/69	J.P.HUCKABAY(NONE)	SEMO
1749.99	APOCYNUM CANNABINUM NV	STE.GENEVIEVE	7/14/77	M.TOWLER(NONE)	SEMO
1749.99	APOCYNUM CANNABINUM NV	BATES	8/28/84	DELOZIER(1609)	UMKC
1749.99	APOCYNUM CANNABINUM NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1435)	UMKC
1749.99	APOCYNUM CANNABINUM NV	COOPER	10/10/83	DELOZIER,RAVEILL&ELLIS(1522)	UMKC
1749.99	APOCYNUM CANNABINUM NV	LAWRENCE	8/15/50	PALMER(50683A)	UMKC
1751	ASCLEPIAS VIRIDIS NV	PLATTE	7/11/83	DELOZIER&RAVEILL(1281)	UMKC
1751	ASCLEPIAS VIRIDIS NV	PETTIS	6/7/84	DELOZIER(1549)	UMKC
1754	ASCLEPIAS PURPURASCENS NV	BOLLINGER	5/24/62	C.UNDERWOOD(1)	SEMO
1754	ASCLEPIAS PURPURASCENS NV	STODDARD	7/4/72	S.A.SUTTER(177)	SEMO
1760	ASCLEPIAS SYRIACA NV	CLAY	8/10/83	RAVEILL(1740)	UMKC
1774	IPOMOEA COCCINEA NV	TANEY	9/9/73	S.A.SUTTER(869)	SEMO
1775	IPOMOEA HEDERACEA F.HEDERACEA	SCOTT	8/5/67	UNKNOWN(113)	SEMO
1775.99	IPOMOEA HEDERACEA NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1380)	UMKC
1775.99	IPOMOEA HEDERACEA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1416)	UMKC
1776	IPOMOEA PURPUREA NV	OREGON	9/3/73	J.WANDEL(NONE)	SEMO
1777	IPOMOEA PANDURATA NV	NEWMADRID	6/30/71	K.CLEMENT(158)	SEMO
1777	IPOMOEA PANDURATA F.PANDURATA	PEMISCOT	7/17/72	R.CLINARD(178)	SEMO
1777.99	IPOMOEA PANDURATA NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1412)	UMKC
1777.99	IPOMOEA PANDURATA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1417)	UMKC
1777.99	IPOMOEA PANDURATA NV	PLATTE	7/12/83	DELOZIER&RAVEILL(1290)	UMKC
1778.10	IPOMOEA LACUNOSA F.PURPURATA	SCOTT	10/6/76	OHMART&THOMPSON(1656)	SEMO
1780	CONVOLVULUS SEPIUM V.SEPIUM-F.SEPIUM	RIPLEY	7/2/76	OHMART(1175)	SEMO
1780	CONVOLVULUS SEPIUM V.SEPIUM-F.SEPIUM	STODDARD	8/28/71	S.A.SUTTER(573)	SEMO
1780.99	CONVOLVULUS SEPIUM NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1359)	UMKC
1780.99	CONVOLVULUS SEPIUM NV	DEKALB	5/31/83	DELOZIER&RAVEILL(1080)	UMKC
1780.99	CONVOLVULUS SEPIUM NV	PUTNAM	7/11/84	DELOZIER(1583)	UMKC
1782.99	CONVOLVULUS ARVENSIS NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1299)	UMKC
1782.99	CONVOLVULUS ARVENSIS NV	CALDWELL	5/31/83	DELOZIER&RAVEILL(1076)	UMKC
1782.99	CONVOLVULUS ARVENSIS NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1419)	UMKC
1783	CUSCUTA CUSPIDATA NV	SCOTT	7/14/78	OHMART(2146)	SEMO
1784	CUSCUTA GLOMERATA NV	TEXAS	8/29/70	S.A.SUTTER(187)	SEMO
1788	CUSCUTA INDECORA NV	LAWRENCE	10/13/50	PALMER(51327)	UMKC
1795	PHLOX BIFIDA V.BIFIDA	DUNKLIN	4/20/80	N.BURCHELL(9)	SEMO
1797.99	PHLOX PILOSA NV	CLINTON	5/19/83	DELOZIER&RAVEILL(952)	UMKC
1798	PHLOX GLABERRIMA V.INTERIOR	NEWMADRID	6/23/71	K.CLEMENT(142)	SEMO
1801	PHLOX PANICULATA F.PANICULATA	NEWMADRID	6/30/71	K.CLEMENT(161)	SEMO
1810	PHACELIA PURSHII NV	MADISON	4/27/74	A.BOEHM(NONE)	SEMO
1810	PHACELIA PURSHII NV	SCOTT	5/12/68	T.E.BROOKS(5602)	SEMO
1819	ECHIUM VULGARE V.VULGARE	IRON	6/7/81	O.OHMART(2509)	SEMO
1823	LITHOSPERMUM ARVENSE NV	CLINTON	5/19/83	DELOZIER&RAVEILL(931)	UMKC
1823	LITHOSPERMUM ARVENSE NV	WRIGHT	4/20/83	DELOZIER&GIBBS(846)	UMKC
1827.99	LITHOSPERMUM CANESCENS NV	RAY	5/31/83	DELOZIER&RAVEILL(1061)	UMKC
1837	LAPPULA ECHINATA NV	SCOTT	5/6/70	B.HIPPER(64)	SEMO
1844	VERBENA BRACTEATA NV	PEMISCOT	7/17/72	R.CLINARD(166)	SEMO
1844	VERBENA BRACTEATA NV	WEBSTER	8/5/72	R.CLINARD(271)	SEMO
1845	VERBENA CANADENSIS F.CANADENSIS	STODDARD	5/2/68	M.BURLESON(NONE)	SEMO
1845.99	VERBENA CANADENSIS NV	HARRISON	6/1/83	DELOZIER&RAVEILL(1133)	UMKC
1853	TEUCRIUM CANADENSE V.VIRGINICUM	SCOTT	6/27/69	DUFUR(73)	SEMO
1857	SCUTELLARIA INCANA V.INCANA	STE.GENEVIEVE	7/16/77	D.BRADLEY(NONE)	SEMO
1866	NEPETA CATARIA NV	NEWMADRID	7/3/71	K.CLEMENT(166)	SEMO
1866	NEPETA CATARIA NV	GENTRY	5/31/83	DELOZIER&RAVEILL(1104)	UMKC
1867.10	GLECHOMA HEDERACEA V.MICRANTHA	MADISON	4/29/78	F.MCGINTY(NONE)	SEMO

1867.10	GLECHOMA HEDERACEA V.MICRANTHA	REYNOLDS	4/8/78	M.LATURNO(28)	SEMO
1870	PHYSOSTEGIA VIRGINIANA V.VIGINIANA-F.VIRGINIANA	DALLAS	8/26/72	S.A.SUTTER(829)	SEMO
1870.99	PHYSOSTEGIA VIRGINIANA NV	BOLLINGER	9/4/77	R.BORCHELT(NONE)	SEMO
1873	PHYSOSTEGIA INTERMEDIA NV	NEWMADRID	5/30/53	D.G.RHODES(NONE)	SEMO
1877	LAMIUM AMPLEXICAULE NV	LIVINGSTON	5/4/83	RAVEILL(1468)	UMKC
1878	LAMIUM PURPUREUM NV	DUNKLIN	4/11/82	K.FIESER(38)	SEMO
1878	LAMIUM PURPUREUM NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(981)	UMKC
1878	LAMIUM PURPUREUM NV	RAY	3/31/83	DELOZIER&RAVEILL(825)	UMKC
1878	LAMIUM PURPUREUM NV	WRIGHT	4/20/83	DELOZIER&GIBBS(845)	UMKC
1882	SALVIA LYRATA NV	NEWMADRID	5/9/71	K.CLEMENT(107)	SEMO
1888.10	MONARDA FISTULOSA V.MOLLIS	SCOTT	7/58	R.REED(151)	SEMO
1888.19	MONARDO FISTULOSA V.FISTULOSA	BOLLINGER	7/2/67	COOK(59)	SEMO
1894	BLEPHILIA HIRSUTA NV	PETTIS	6/14/83	DELOZIER(1173)	UMKC
1900	PYCNANTHEMUM TENUIFOLIUM NV	PERRY	7/24/67	BUCHHEIT(83)	SEMO
1900	PYCNANTHEMUM TENUIFOLIUM NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1304)	UMKC
1900	PYCNANTHEMUM TENUIFOLIUM NV	PLATTE	7/11/83	DELOZIER&RAVEILL(1279)	UMKC
1905	PYCNANTHEMUM ALBESCENS NV	NEWMADRID	6/22/71	K.CLEMENT(154)	SEMO
1908	LYCOPUS AMERICANUS NV	BARRY	9/14/79	HORNBERGER(852)	UMKC
1921	SOLANUM AMERICANUM NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1437)	UMKC
1923	SOLANUM SARACHOIDES NV	CALLOWAY	10/10/83	DELOZIER,RAVEILL&ELLIS(1515)	UMKC
1923	SOLANUM SARACHOIDES NV	CLAY	8/10/83	RAVEILL(1762)	UMKC
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	CHRISTIAN	8/5/72	R.CLINARD(259)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	GREENE	8/5/72	R.CLINARD(265)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	HOWELL	8/5/72	R.CLINARD(267)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	NEWMADRID	5/24/72	R.CLINARD(92)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	PEMISCOT	7/15/72	R.CLINARD(152)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	TANEY	8/5/72	R.CLINARD(264)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	STONE	8/3/72	R.CLINARD(252)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	WEBSTER	8/5/72	R.CLINARD(272)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	STODDARD	7/19/72	R.CLINARD(186)	SEMO
1924.10	SOLANUM CAROLINENSE F.ALBIFLORUM	SCOTT	7/7/72	CLINARD&BROOKS(117)	SEMO
1927	SOLANUM ROSTRATUM NV	SCOTT	8/5/67	M.JONES(90)	SEMO
1927	SOLANUM ROSTRATUM NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1439)	UMKC
1933.99	PHYSALIS LONGIFOLIA NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1387)	UMKC
1935.10	PHYSALIS ANGULATA V.PENDULA	STODDARD	8/31/71	S.A.SUTTER(600)	SEMO
1935.10	PHYSALIS ANGULATA V.PENDULA	SCOTT	10/6/76	OHMART&THOMPSON(1653)	SEMO
1937	PHYSALIS MISSOURIENSIS NV	RAY	8/28/82	DELOZIER,CRAIN,FRYE&GIBBS(170A	UMKC
1941.10	DATURA STRAMONIUM V.TATULA	NEWMADRID	5/25/68	DOWNING(68)	SEMO
1941.10	DATURA STRAMONIUM V.TATULA	SCOTT	7/7/72	CLINARD&BROOKS(113)	SEMO
1948	BACOPA ROTUNDIFOLIA NV	STODDARD	7/26/70	S.A.SUTTER(154)	SEMO
1953	CONOBEA MULTIFIDA NV	SCOTT	9/15/76	OHMART&THOMPSON(1593)	SEMO
1954	MIMULUS RINGENS V.RINGENS	SCOTT	7/7/72	R.CLINARD(228)	SEMO
1954.99	MIMULUS RINGENS NV	RAY	8/2/83	DELOZIER&RAVEILL(1328)	UMKC
1961.10	VERBASCUM BLATTARIA F.ERUBESCENS	NEWMADRID	6/2/71	K.CLEMENT(126)	SEMO
1961.99	VERBASCUM BLATTARIA NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1302)	UMKC
1961.99	VERBASCUM BLATTARIA NV	CLAY	6/24/83	RAVEILL(1624)	UMKC
1961.99	VERBASCUM BLATTARIA NV	PETTIS	6/7/84	DELOZIER(1557)	UMKC
1961.99	VERBASCUM BLATTARIA NV	PLATTE	7/12/83	DELOZIER&RAVEILL(1291)	UMKC
1968	PENSTEMON ALLUVIORUM NV	NEWMADRID	6/23/71	K.CLEMENT(155)	SEMO
1981	CHAENORRHINUM MINUS NV	SCOTT	6/6/78	OHMART(2105)	SEMO
1981	CHAENORRHINUM MINUS NV	WORTH	6/1/83	DELOZIER&RAVEILL(1125)	UMKC
1982	VERONICASTRUM VIRGINICUM F.VIRGINICUM	IRON	7/23/67	COOK(197)	SEMO
1985	VERONICA AMERICANA NV	JACKSON	8/11/83	RAVEILL(1815)	UMKC
1987.99	VERONICA PEREGRINA NV	GENTRY	5/31/83	DELOZIER&RAVEILL(1098)	UMKC
1987.99	VERONICA PEREGRINA NV	WORTH	6/1/83	DELOZIER&RAVEILL(1118)	UMKC

1988	VERONICA ARVENSIS NV	OZARK	4/21/83	DELOZIER&GIBBS(871) UMKC
1989	VERONICA POLITA NV	CLAY	3/6/83	DELOZIER&GIBBS(802) UMKC
1989	VERONICA POLITA NV	PLATTE	4/15/83	DELOZIER(836) UMKC
1989	VERONICA POLITA NV	RAY	5/4/83	DELOZIER&RAVEILL(919) UMKC
2004	PEDICULARIS CANADENSIS F.CANADENSIS	WAYNE	4/17/54	O.H.WELLS(NONE) SEMO
2006	CASTILLEJA COCCINEA F.COCCINEA	MADISON	4/28/68	B.TINNIN(36) SEMO
2006	CASTILLEJA COCCINEA F.COCCINEA	STE.GENEVIEVE	4/23/78	S.SAGO(44) SEMO
2009	CAMPSIS RADICANS NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1298) UMKC
2011	CATALPA BIGNONIOIDES NV	BOLLINGER	5/19/62	C.UNDERWOOD(2) SEMO
2015	OROBANCHE UNIFLORA NV	MADISON	5/1/76	B.HANNER(40) SEMO
2021.30	RUELLIA HUMILIS V.LONGIFLORA-F.LONGIFLORA	STONE	8/2/72	R.CLINARD(250) SEMO
2021.99	RUELLIA HUMILIS NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1308) UMKC
2028	PLANTAGO RUGELII V.RUGELII	PEMISCOT	7/17/72	R.CLINARD(170) SEMO
2028	PLANTAGO RUGELII V.RUGELII	PERRY	7/28/67	BUCHHEIT(109) SEMO
2028	PLANTAGO RUGELII NV	ATCHISON	6/27/84	DELOZIER&ELLIS(1571) UMKC
2028	PLANTAGO RUGELII NV	GENTRY	5/31/83	DELOZIER&RAVEILL(1106) UMKC
2028	PLANTAGO RUGELII NV	MONTGOMERY	10/10/83	DELOZIER,RAVEILL&ELLIS(1512) UMKC
2028.99	PLANTAGO RUGELII NV	WEBSTER	8/5/72	R.CLINARD(270) SEMO
2029	PLANTAGO LANCEOLATA V.LANCEOLATA	BOLLINGER	6/24/67	D.FISH(50) SEMO
2029	PLANTAGO LANCEOLATA V.LANCEOLATA	NEWMADRID	6/14/71	K.CLEMENT(170) SEMO
2029	PLANTAGO LANCEOLATA V.LANCEOLATA	PEMISCOT	6/16/72	R.CLINARD(20) SEMO
2029	PLANTAGO LANCEOLATA V.LANCEOLATA	WAYNE	5/1/70	D.CRITES(46) SEMO
2029.99	PLANTAGO LANCEOLATA NV	COOPER	10/10/83	DELOZIER,RAVEILL&ELLIS(1532) UMKC
2029.99	PLANTAGO LANCEOLATA NV	GRUNDY	7/11/84	DELOZIER(1594) UMKC
2033	PLANTAGO VIRGINICA NV	RAY	5/31/83	DELOZIER&RAVEILL(1051) UMKC
2047	GALIUM OBTUSUM V.OBTUSUM	WASHINGTON	10/7/78	M.SKINNER(289) SEMO
2049	SPERMACOCE GLABRA NV	SCOTT	9/15/76	OHMART&THOMPSON(1602) SEMO
2054.99	HOUSTONIA CAERULEA NV	PEMISCOT	4/10/83	R.SLINKARD(34) SEMO
2054.99	HOUSTONIA PUSILLA NV	WASHINGTON	4/5/81	C.JONES(23) SEMO
2055	HOUSTONIA PUSILLA F.PUSILLA	NEWMADRID	4/9/71	K.CLEMENT(NONE) SEMO
2055.99	HOUSTONIA PUSILLA NV	SCOTT	4/1/71	J.BURGER(21) SEMO
2056.99	HOUSTONIA MINIMA NV	RIPLEY	4/20/62	D.KENNEDY(NONE) SEMO
2066.99	LONICERA DIOICA NV	RAY	9/1/83	DELOZIER&RAVEILL(1073) UMKC
2088	DIPSACUS SYLVESTRIS NV	PLATTE	7/12/83	DELOZIER&RAVEILL(1292) UMKC
2090	CUCURBITA PEPO V.OVIFERA	BOLLINGER	9/17/79	S.MONTGOMERY(NONE) SEMO
2102	SPECULARIA BIFLORA NV	STODDARD	6/14/69	SCHUCHART(NONE) SEMO
2112.20	VERNONIA ALTISSIMA V.TAENIOTRICHA	NEWMADRID	8/3/53	D.G.RHODES(NONE) SEMO
2114	VERNONIA BALDWINI V.BALDWINI-F.BALDWINI	BOLLINGER	7/15/75	W.TEETERS(71) SEMO
2114	VERNONIA BALDWINI V.BALDWINI	PERRY	6/26/77	J.MCNEELY(NONE) SEMO
2114	VERNONIA BALDWINI V.BALDWINI-F.BALDWINI	ST.FRANCOIS	7/23/67	COOK(198) SEMO
2114.99	VERNONIA BALDWINI NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1411) UMKC
2147	SOLIDAGO FLEXICAULIS NV	CLAY	8/31/83	RAVEILL(1921) UMKC
2180.10	ASTER SAGITTIFOLIUS F.HIRTELLUS	WASHINGTON	10/7/78	M.SKINNER(286) SEMO
2181.99	ASTER DRUMMONDII NV	PETTIS	10/3/82	DELOZIER(669) UMKC
2189	ASTER PILOSUS V.PILOSUS-F.PILOSUS	JEFFERSON	9/24/78	M.SKINNER(274) SEMO
2189	ASTER PILOSUS V.PILOSUS-F.PILOSUS	NEWMADRID	10/29/78	O.OHMART(2207) SEMO
2197	ASTER ONTARIONIS NV	CLAY	10/6/83	RAVEILL(1981) UMKC
2198	ASTER PRAEALTUS V.PRAEALTUS	NEWMADRID	10/28/78	O.OHMART(2196) SEMO
2206	ERIGERON PHILADELPHICUS F.PHILADELPHICUS	CARTER	5/17/70	G.GREER(17) SEMO
2206	ERIGERON PHILADELPHICUS F.PHILADELPHICUS	MADISON	5/18/68	D.MCFARLAND(57) SEMO
2206	ERIGERON PHILADELPHICUS NV	NODAWAY	6/1/83	DELOZIER&RAVEILL(1110) UMKC
2208	ERIGERON STRIGOSUS V.STRIGOSUS-F.STRIGOSUS	BOLLINGER	5/15/63	ED.LACY(NONE) SEMO
2210	ERIGERON CANADENSIS NV	NEWMADRID	7/11/72	R.CLINARD(141) SEMO
2210	ERIGERON CANADENSIS NV	COOPER	10/10/83	DELOZIER,RAVEILL&ELLIS(1534) UMKC
2214.99	ANTENNARIA NEGLECTA NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(988) UMKC

2214.99	ANTENNARIA NEGLECTA NV	CLINTON	6/10/83	DELOZIER&RAVEILL(948)	UMKC
2216	ANTENNARIA PLANTAGINIFOLIA V.PLANTAGINIFOLIA	DUNKLIN	4/10/71	K.CLEMENT(15)	SEMO
2231	XANTHIUM CHINENSE NV	SCOTT	11/3/76	OHMART(1677)	SEMO
2232	XANTHIUM PENSYLVANICUM NV	NEWMADRID	10/29/78	O.OHMART(2199)	SEMO
2232	XANTHIUM PENSYLVANICUM NV	SCOTT	9/15/76	OHMART&THOMPSON(1563)	SEMO
2240.99	SILPHIUM PERFOLIATUM NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1300)	UMKC
2241.99	SILPHIUM INTEGRIFOLIUM NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1306)	UMKC
2249	PARTHENIUM HISPIDUM NV	DUNKLIN	6/20/75	L.R.SCHILD(NONE)	SEMO
2256	RUDBECKIA HIRTA V.PULCHERRIMA	NEWMADRID	6/14/71	K.CLEMENT(198)	SEMO
2256	RUDBECKIA HIRTA NV	PERRY	6/18/77	J.MCNEELY(NONE)	SEMO
2262	ECHINACEA PALLIDA F.PALLIDA	REYNOLDS	6/15/75	K.D.FORNEY(23)	SEMO
2264	DRACOPIS AMPLEXICAULIS NV	RAY	6/28/83	DELOZIER&RAVEILL(1218)	UMKC
2265	RATIBIDA PINNATA NV	GRUNDY	7/11/84	DELOZIER(1596)	UMKC
2268.99	HELIANTHUS ANNUUS NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1440)	UMKC
2268.99	HELIANTHUS ANNUUS NV	BARTON	8/8/84	DELOZIER(1626)	UMKC
2269	HELIANTHUS PETIOLARIS NV	NEWMADRID	7/11/72	R.CLINARD(140)	SEMO
2273	HELIANTHUS LAETIFLORUS V.LAETIFLORUS	STE.GENEVIEVE	7/16/77	D.BRADLEY(NONE)	SEMO
2273.10	HELIANTHUS LAETIFLORUS V.RIGIDUS	TEXAS	8/29/70	S.A.SUTTER(167)	SEMO
2276	HELIANTHUS DIVARICATUS V.DIVARICATUS	SCOTT	7/25/72	R.CLINARD(230)	SEMO
2279	HELIANTHUS MICROCEPHALUS NV	JEFFERSON	9/24/78	M.SKINNER(280)	SEMO
2287	VERBESINA ALTERNIFOLIA NV	STODDARD	8/31/71	S.A.SUTTER(619)	SEMO
2291	COREOPSIS TINCTORIA F.TINCTORIA	PEMISCOT	7/17/72	R.CLINARD(164)	SEMO
2291.99	COREOPSIS TINCTORIA NV	SCOTT	7/17/72	R.CLINARD(159)	SEMO
2293.10	COREOPSIS LANCEOLATA V.VILLOSA	OREGON	5/11/69	ROBERTS(53)	SEMO
2293.10	COREOPSIS LANCEOLATA V.VILLOSA	SCOTT	5/1/81	K.BRIGGS(73)	SEMO
2293.99	COREOPSIS LANCEOLATA NV	RAY	6/28/83	DELOZIER&RAVEILL(1224)	UMKC
2298	BIDENS CERNUA V.CERNUA	SCOTT	9/15/76	OHMART&THOMPSON(1561)	SEMO
2298.20	BIDENS CERNUA V.ELLIPTICA	SCOTT	9/15/76	OHMART&THOMPSON(1565)	SEMO
2300	BIDENS COMOSA NV	STODDARD	8/28/71	S.A.SUTTER(568)	SEMO
2301.10	BIDENS VULGATA V.VULGATA-F.PUBERULA	SCOTT	9/15/76	OHMART&THOMPSON(1569)	SEMO
2302	BIDENS FRONDOSA V.FRONDOSA-F.FRONDOSA	SCOTT	9/15/76	OHMART&THOMPSON(1580)	SEMO
2323	ACHILLEA MILLEFOLIUM F.MILLEFOLIUM	SCOTT	5/3/68	DOWNING(44)	SEMO
2326	ANTHEMIS COTULA NV	NEWMADRID	6/23/71	K.CLEMENT(133)	SEMO
2326	ANTHEMIS COTULA NV	SCOTT	5/15/71	J.BURGER(3)	SEMO
2328	MATRICARIA CHAMOMILLA V.CHAMOMILLA	MADISON	5/2/76	J.GOLOSBERRY(51)	SEMO
2328	MATRICARIA CHAMOMILLA V.CHAMOMILLA	PERRY	5/11/75	P.LUEHRS(72)	SEMO
2328	MATRICARIA CHAMOMILLA V.CHAMOMILLA	SCOTT	6/4/78	OHMART(2092)	SEMO
2329	MATRICARIA MATRICARIOIDES NV	NEWMADRID	4/24/77	R.K.NEWMAN(65)	SEMO
2329	MATRICARIA MATRICARIOIDES NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(958)	UMKC
2329	MATRICARIA MATRICARIOIDES NV	OZARK	4/21/83	DELOZIER&GIBBS(856)	UMKC
2330.99	CHRYSANTHEMUM LEUCANTHEMUM NV	GENTRY	6/1/83	DELOZIER&RAVEILL(1112)	UMKC
2347	SENECIO GLABELLUS NV	MADISON	4/2/76	B.HANNER(26)	SEMO
2347	SENECIO GLABELLUS NV	OZARK	4/21/83	DELOZIER&GIBBS(874)	UMKC
2348	SENECIO PLATTENSIS NV	OREGON	4/17/71	J.HILL(13)	SEMO
2348	SENECIO PLATTENSIS NV	PERRY	5/1/80	M.PIGG(136)	SEMO
2349	SENECIO PAUPERCULUS V.BALSAMITAE-F.BALSAMITAE	OREGON	4/17/71	B.TURNER(54)	SEMO
2352	ARCTIUM MINUS F.MINUS	REYNOLDS	8/23/77	T.JURKOVICH(NONE)	SEMO
2352	ARCTIUM MINUS F.MINUS	PERRY	7/21/67	BUCHHEIT(73)	SEMO
2354	CARDUUS NUTANS NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1296)	UMKC
2354	CARDUUS NUTANS NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(984)	UMKC
2354	CARDUUS NUTANS NV	PLATTE	7/12/83	DELOZIER&RAVEILL(1289)	UMKC
2354	CARDUUS NUTANS NV	RAY	6/28/83	DELOZIER&RAVEILL(1225)	UMKC
2356	CIRSIUM VULGARE NV	COOPER	10/10/83	DELOZIER,RAVEILL&ELLIS(1523)	UMKC
2358	CIRSIUM DISCOLOR F.DISCOLOR	JEFFERSON	8/21/77	M.SKINNER(NONE)	SEMO
2358.99	CIRCIUM DISCOLOR NV	SCOTT	5/3/67	JONES(115)	SEMO

2366	CENTAUREA CYANUS NV	DUNKLIN	5/8/71	K.CLEMENT(97)	SEMO
2366	CENTAUREA CYANUS NV	NEWMADRID	7/17/72	R.CLINARD(162)	SEMO
2370	CENTAUREA MACULOSA NV	ST.FRANCOIS	7/4/79	DIRDEN(149)	SEMO
2374	CICHORIUM INTYBUS F.INTYBUS	CHRISTIAN	8/5/71	R.CLINARD(260)	SEMO
2374	CICHORIUM INTYBUS F.INTYBUS	SCOTT	7/6/72	R.CLINARD(86)	SEMO
2374.99	CICHORIUM INTYBUS NV	ST.FRANCOIS	7/4/79	DIRDEN(143)	SEMO
2374.99	CICHORIUM INTYBUS NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1420)	UMKC
2378	KRIGIA BIFLORA NV	MADISON	4/30/76	S.HILL(NONE)	SEMO
2382	TRAGOPOGON DUBIUS NV	PEMISCOT	7/17/72	R.CLINARD(169)	SEMO
2382	TRAGOPOGON DUBIUS NV	SCOTT	6/20/73	R.CLINARD(NONE)	SEMO
2382	TRAGOPOGON DUBIUS NV	GENTRY	6/1/83	DELOZIER&RAVEILL(1111)	UMKC
2382	TRAGOPOGON DUBIUS NV	HARRISON	6/1/83	DELOZIER&RAVEILL(1135)	UMKC
2384	TARAXACUM ERYTHROSPERMUM NV	FRANKLIN	4/2/81	R.BOLTEN(25)	SEMO
2384	TARAXACUM ERYTHROSPERMUM NV	SCOTT	4/29/81	K.DRIGGS(69)	SEMO
2385	TARAXACUM OFFICINALE NV	DUNKLIN	4/19/80	R.SCHROEPPEL(11)	SEMO
2385	TARAXACUM OFFICINALE NV	JEFFERSON	6/25/77	DESOTO(NONE)	SEMO
2385	TARAXACUM OFFICINALE NV	MADISON	4/25/68	D.MCFARLAND(17)	SEMO
2385	TARAXACUM OFFICINALE NV	NEWMADRID	7/1/72	R.CLINARD(79)	SEMO
2385	TARAXACUM OFFICINALE NV	PEMISCOT	7/15/72	R.CLINARD(153)	SEMO
2385	TARAXACUM OFFICINALE NV	STONE	8/2/72	R.CLINARD(247)	SEMO
2385	TARAXACUM OFFICINALE NV	REYNOLDS	4/8/78	B.BAGE(22)	SEMO
2385	TARAXACUM OFFICINALE NV	WAYNE	4/12/84	D.ANSELM(48)	SEMO
2385	TARAXACUM OFFICINALE NV	STODDARD	5/2/70	C.HILL(11)	SEMO
2385	TARAXACUM OFFICINALE NV	SCOTT	5/3/71	J.BURGER(32)	SEMO
2385	TARAXACUM OFFICINALE NV	CALDWELL	5/19/83	DELOZIER&RAVEILL(971)	UMKC
2385	TARAXACUM OFFICINALE NV	CLINTON	5/19/83	DELOZIER&RAVEILL(944)	UMKC
2385	TARAXACUM OFFICINALE NV	GENTRY	5/31/83	DELOZIER&RAVEILL(1102)	UMKC
2385	TARAXACUM OFFICINALE NV	ST.CLAIR	4/20/83	DELOZIER&GIBBS(839)	UMKC
2385	TARAXACUM OFFICINALE NV	WORTH	6/1/83	DELOZIER&RAVEILL(1120)	UMKC
2385	TARAXACUM OFFICINALE NV	WRIGHT	4/20/83	DELOZIER&GIBBS(842)	UMKC
2385	TARAXACUM OFFICINALE NV	PUTNAM	7/11/84	DELOZIER(1584)	UMKC
2388.10	SONCHUS ASPER F.GLANDULOSUS	SCOTT	9/15/76	OHMART&THOMPSON(1594)	SEMO
2388.99	SONCHUS ASPER NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1311)	UMKC
2388.99	SONCHUS ASPER NV	CARROLL	8/8/83	DELOZIER&RAVEILL(1385)	UMKC
2388.99	SONCHUS ASPER NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1425)	UMKC
2389	LACTUCA SCARIOLA F.SCARIOLA	NEWMADRID	6/14/71	K.CLEMENT(203)	SEMO
2389.99	LACTUCA SCARIOLA NV	BUCHANAN	7/12/83	DELOZIER&RAVEILL(1303)	UMKC
2389.99	LACTUCA SCARIOLA NV	CHARITON	8/8/83	DELOZIER&RAVEILL(1433)	UMKC
2389.99	LACTUCA SCARIOLA NV	COOPER	10/10/83	DELOZIER,RAVEILL&ELLIS(1533)	UMKC
2390.99	LACTUCA SALIGNA NV	MONTGOMERY	10/10/83	DELOZIER,RAVEILL&ELLIS(1513)	UMKC
2390.99	LACTUCA SALIGNA NV	PLATTE	7/11/83	DELOZIER&RAVEILL(1286)	UMKC
2391.40	LACTUCA CANADENSIS V.LONGIFOLIA-F.LONGIFOLIA	SCOTT	7/10/76	OHMART(1215)	SEMO
2391.60	LACTUCA CANADENSIS V.LATIFOLIA-F.LATIFOLIA	CHRISTIAN	8/5/72	R.CLINARD(263)	SEMO